



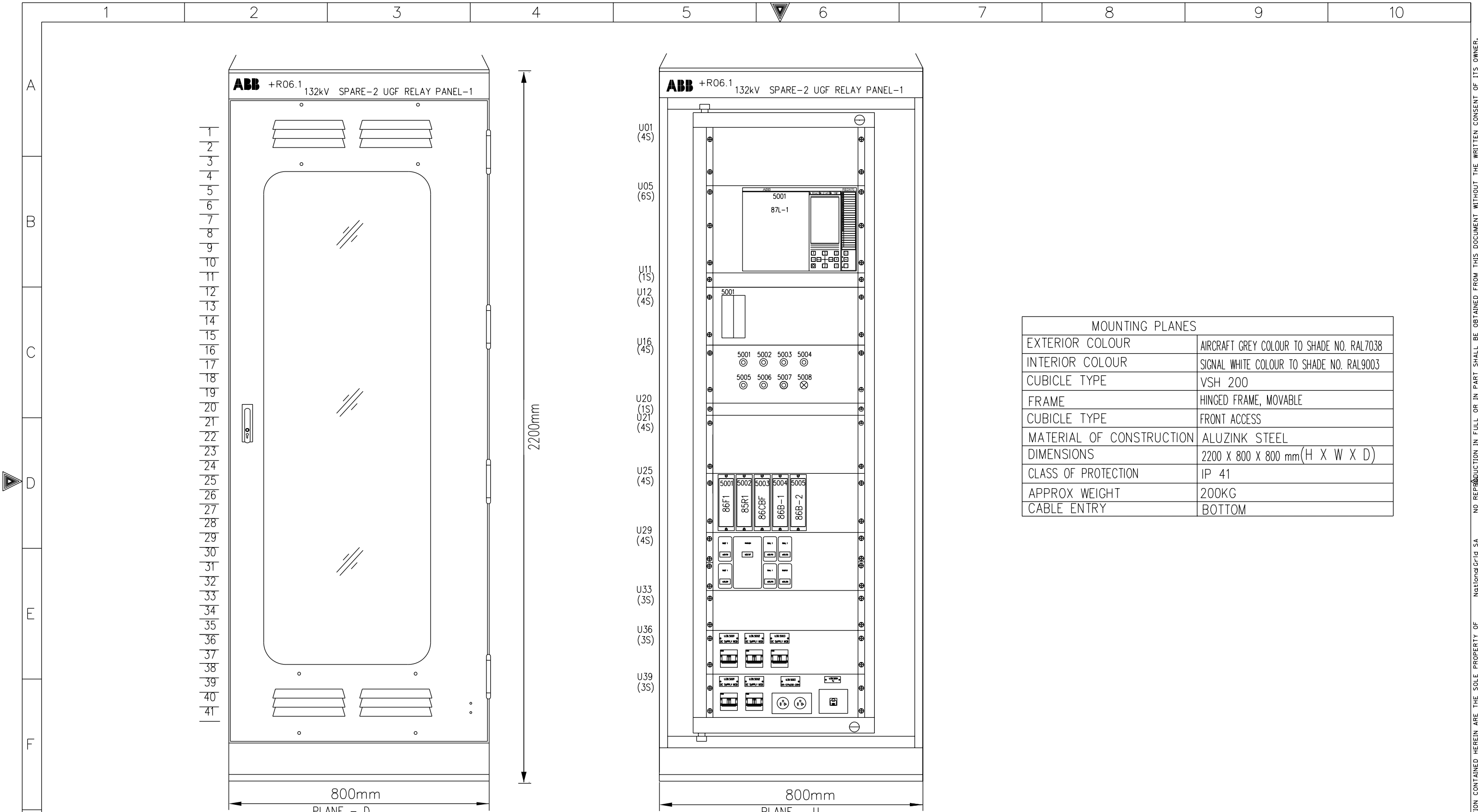
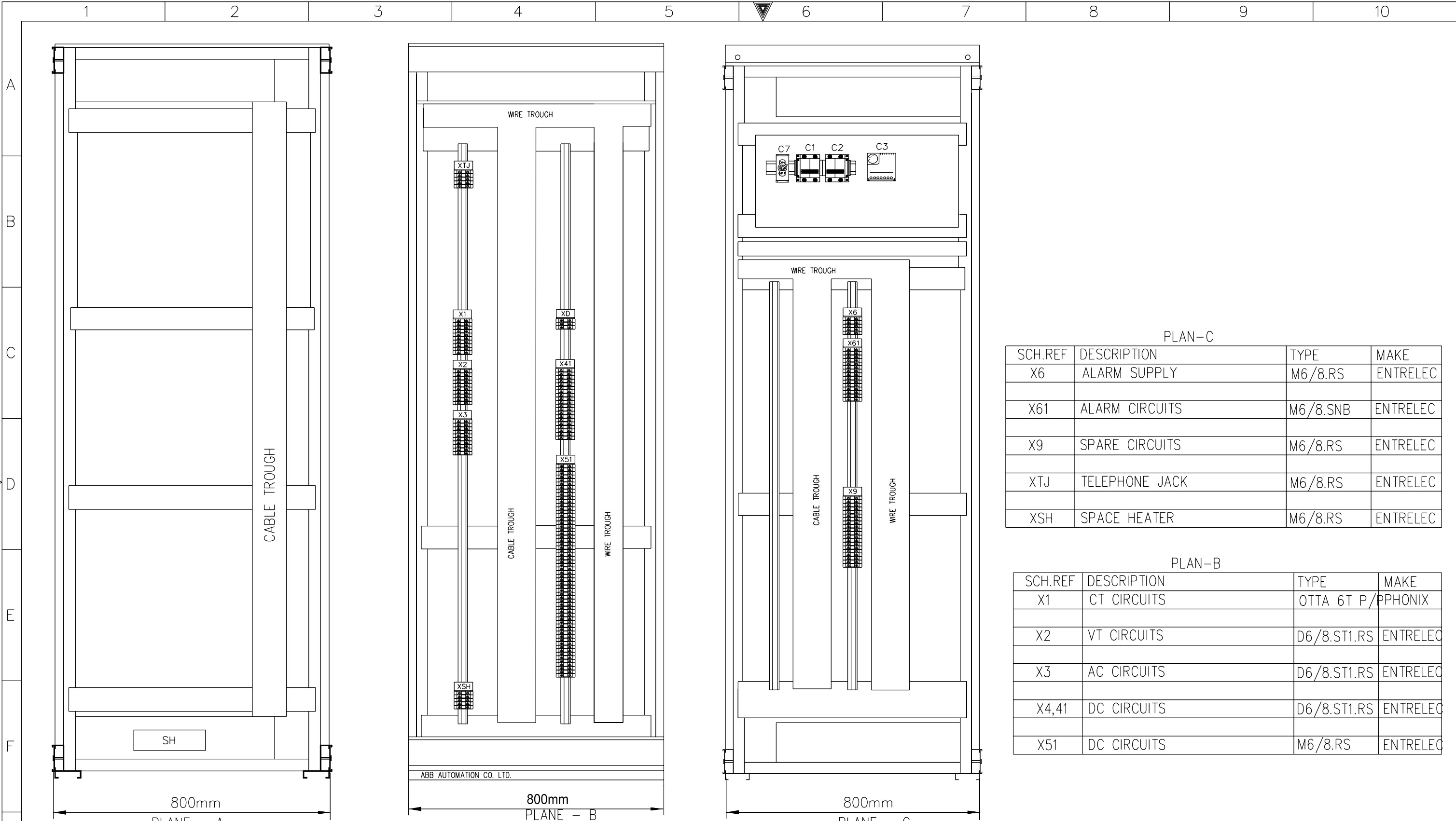


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A			POWER SYSTEMS NETWORK MANAGEMENT PROTECTION AND SUBSTATION AUTOMATION SYSTEMS WBS NO: S-13656					ABB AUTOMATION COMPANY LTD., 414, AL-KHARJ ROAD SECOND INDUSTRIAL CITY RIYADH-11383 K.S.A																																												
B																																																				
C	CONTRACTOR : ABB Contracting Company																																																			
	CLIENT : National GridSA																																																			
D	PROJECT : CONSTRUCTION OF NEW 132/13.8kV SS 8709 IN AL-KHARJ CITY																																																			
	SUBSTATION : S/S 8709																																																			
E	CONTRACT NO. : 11131113/00																																																			
	TITLE : Assembly Drawing – +R06.1 [Under Ground Feeder]																																																			
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G	<table><tr><td colspan="3">AS-BUILT BY _____ DATE _____</td><td colspan="2">CONTRACT NO. 11131113/00</td><td colspan="2">JOB ORDER NO. S-13656</td><td colspan="3">COVER SHEET</td></tr><tr><td colspan="3">01 13 49 FACTORY ASBUILT</td><td colspan="2">DRAWN BY RIZ CHECKED BY KVR</td><td colspan="3">132kV UGF-SPARE-2 RELAY PANEL-1+R06.1</td><td colspan="3" rowspan="2"><div>الشركة الوطنية لنقل الكهرباء</div><div> نقل الكهرباء National Grid sa</div></td></tr><tr><td colspan="3">00 13 04 FOR APPROVAL</td><td colspan="2">DATE STARTED 24.01.2013 DATE COMPLETED _____</td><td colspan="3">S/S 8709-132/13.8KV IN AL-KHARJ CITY</td></tr><tr><td colspan="3">REV. NO. DATE DESCRIPTION</td><td colspan="2">OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC</td><td colspan="3">RIYADH SAUDI ARABIA</td><td>INDEX -</td><td>PLANT NO. C421</td><td>DRAWING NUMBER CD-322920</td><td>SHEET NO. SHT G00 CONT. G01</td><td>REV. NO. 01</td></tr></table>										AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		COVER SHEET			01 13 49 FACTORY ASBUILT			DRAWN BY RIZ CHECKED BY KVR		132kV UGF-SPARE-2 RELAY PANEL-1+R06.1			<div>الشركة الوطنية لنقل الكهرباء</div> <div> نقل الكهرباء National Grid sa</div>			00 13 04 FOR APPROVAL			DATE STARTED 24.01.2013 DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY			REV. NO. DATE DESCRIPTION			OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA			INDEX -	PLANT NO. C421	DRAWING NUMBER CD-322920	SHEET NO. SHT G00 CONT. G01	REV. NO. 01
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NG/D2-D (2012/01)


DMS VECTOR NGD200

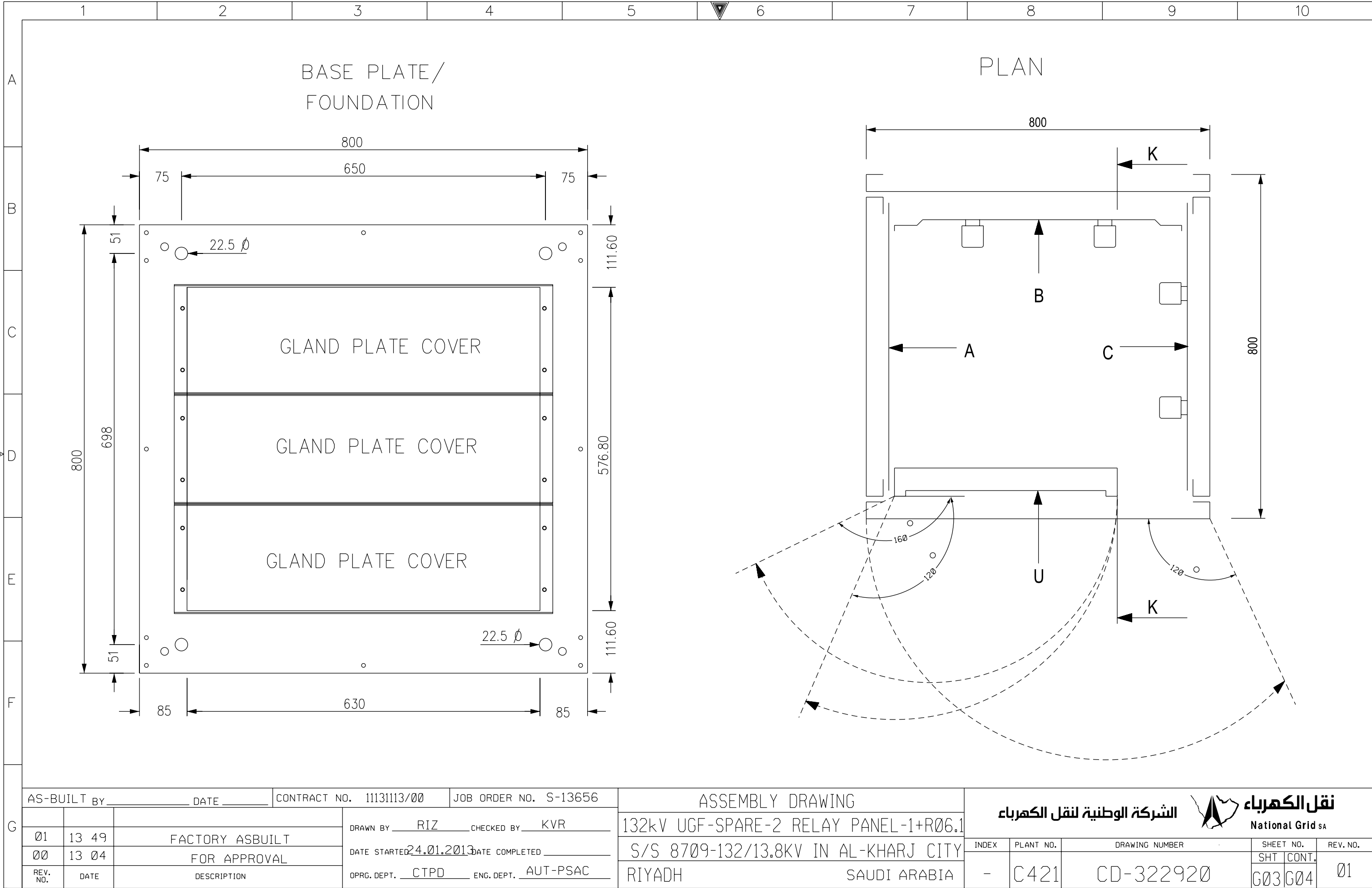




PLAN-C			
SCH.REF	DESCRIPTION	TYPE	MAKE
X6	ALARM SUPPLY	M6/8.RS	ENTRELEC
X61	ALARM CIRCUITS	M6/8.SNB	ENTRELEC
X9	SPARE CIRCUITS	M6/8.RS	ENTRELEC
XTJ	TELEPHONE JACK	M6/8.RS	ENTRELEC
XSH	SPACE HEATER	M6/8.RS	ENTRELEC

PLAN-B			
SCH.REF	DESCRIPTION	TYPE	MAKE
X1	CT CIRCUITS	OTTA 6T P/	PPHONIX
X2	VT CIRCUITS	D6/8.ST1.RS	ENTRELEC
X3	AC CIRCUITS	D6/8.ST1.RS	ENTRELEC
X4,41	DC CIRCUITS	D6/8.ST1.RS	ENTRELEC
X51	DC CIRCUITS	M6/8.RS	ENTRELEC

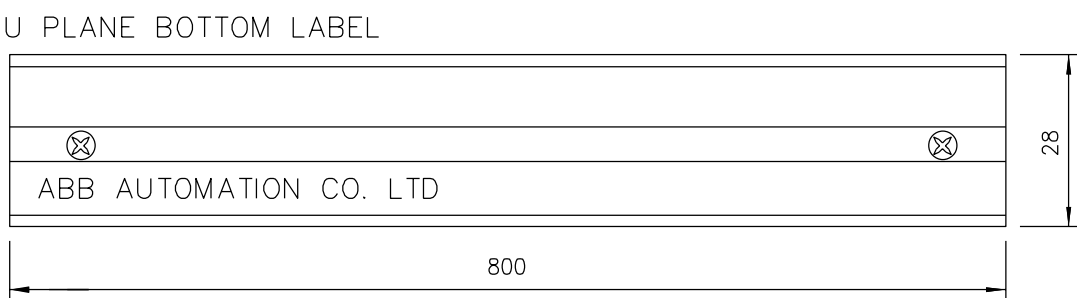
G	AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		ASSEMBLY DRAWING		<div><div>الشركة الوطنية لنقل الكهرباء</div><div> نقل الكهرباء National Grid sa</div></div>					
	01	13 49	FACTORY ASBUILT		DRAWN BY <u> RIZ </u> CHECKED BY <u> KVR </u>		132kV UGF-SPARE-2-2 RELAY PANEL-1+R06.1		INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.		REV. NO.
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	REV. NO.	DATE	DESCRIPTION		OPRG. DEPT. <u> CTPD </u> ENG. DEPT. <u> AUT-PSAC </u>		RIYADH SAUDI ARABIA					G02	G03	



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MANUFACTURING LABEL



ABB Automation Co.Ltd.

PROJECT : National Grid SA
S/S 8709

ORDER REFERENCE : 2875 RF S13656

YEAR OF MANUFACTURE: 2013

PANEL NO. : +R06.1

DRAWING NO. : S13656-CD-323922

MADE IN THE KINGDOM OF SAUDI ARABIA

AS-BUILT BY _____ DATE _____	CONTRACT NO. 11131113/00	JOB ORDER NO. S-13656
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			DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>
01	13 49	FACTORY ASBUILT	DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____
00	13 04	FOR APPROVAL	
REV. NO.	DATE	DESCRIPTION	OPRG. DEPT. <u>CTPD</u> ENG. DEPT. <u>AUT-PSAC</u>

ASSEMBLY DRAWING

132kV UGF-SPARE-2 RELAY PANEL-1+R06.1

S/S 8709-132/13.8KV IN AL-KHARJ CITY

RIYADH

SAUDI ARABIA

الشركة الوطنية لنقل الكهرباء



نقل الكهرباء

National Grid SA

INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.		REV. NO.
-	C421	CD-322920	SHT	CONT.	01
			G04	L00	





NG/D2-D (2012/01)

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NG/D2-D (2012/01)

DMS

VECTOR

NGD200

	1	2	3	4	5	6	7	8	9	10	
A	SR. NO.	GA. REF.	SCH. REF.	D E S C R I P T I O N		SHT.	QTY.	TYPE	MAKE	ORDERING INFORMATION	COUNTRY OF ORIGIN
				RELAY CUBICLE- +R06.1 ACCOMODATING THE FOLLOWING			1	VSH 200	ABB		
	1	U05.5001	87L-1	NUMERICAL DIFF PROTECTION TERMINAL WITH THE FOLLOWING		298	1	RED 670	ABB	1MRK 004 810-DC	SWEDEN
				FEATURES :		298A					
				ANALOG MODULE(6I+6U)		299					
				RATED POWER SUPPLY MODULE : (90-250V)DC							
				BINARY I/P MODULE -1NO							
				BINARY O/P MODULE-1NO							
				OPTICAL ETHERNET MODULE IEC 61850-8-1/100 BASE FX CHANNEL GLASS							
				MEDIUM GRAPHIC HMI,15 CONTROLLABLE OBJECTS,1X 19"							
B	2	U12.5001	TS-1	TEST SWITCH FOR RED 670 RELAY		224	1	RTXP24	ABB	RK 926 315-AC	
	3	U16.5001	S86F1	PUSH BUTTON FOR 86CBF & 86F1 TRIP RELAY RESET PB		232	2	MP1-10B	ABB	1SFA 611 100 R1006	SWEDEN
		U16.5002	S86CBF	BUTTON COLOUR : BLACK				MCBH-20		1SFA 611 605 R1102	
				CONTACT DATA : 1NO+1NC							
	4	U16.5003	S86B-1	PUSH BUTTON FOR 86B & LT TRIP RELAY RESET PB		232	3	MP1-10B	ABB	1SFA 611 100 R1006	SWEDEN
		U16.5004	S86B-2	BUTTON COLOUR : BLACK				MCBH-20		1SFA 611 605 R1102	
		U16.5005	LT	CONTACT DATA : 1NO+1NC							
C											
	5	U16.5006	S01	PUSH BUTTON FOR PROTECTION IN		232	1	MP1-10B	ABB	1SFA 611 100 R1006	SWEDEN
				BUTTON COLOUR : BLACK				MCBH-20		1SFA 611 605 R1102	
				CONTACT DATA : 1NO+1NC							
	6	U16.5007	S02	PUSH BUTTON FOR PROTECTION OUT		232	1	MP1-10B	ABB	1SFA 611 100 R1006	SWEDEN
				BUTTON COLOUR : BLACK				MCBH-20		1SFA 611 605 R1102	
				CONTACT DATA : 1NO+1NC							
		7	U16.5008	L01	INDICATION LAMP FOR FPFM OUT		277	1	MC1-10010	ABB	1SFA 611 400 R1003
D				LENS : WHITE				MCBH-003		1SFA 611 605 R1400	SWEDEN
				LED RATING : 110-130V,4-6MA				KA2-2145		1SFA 616 921 R2145	
				HOLDER RATING : 130V WITH RESISTORS DIODEBLOCK							
E											
F											
G	AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		LIST OF APPARATUS		الشركة الوطنية لنقل الكهرباء National Grid sa		
			DRAWN BY RIZ CHECKED BY KVR		132kV UGF-SPARE-2 RELAY PANEL-1+R06.1						
	01	13 49	FACTORY ASBUILT		DATE STARTED 24.01.2013 DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY				
	00	13 04	FOR APPROVAL		OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA				
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A	SR. NO.	GA. REF.	SCH. REF.	D E S C R I P T I O N		SHT.	QTY.	TYPE	MAKE	ORDERING INFORMATION	COUNTRY OF ORIGIN	
	8	U25.5001	86F1	HIGH BURDEN TYPE HAND/ELECTRICAL RESET TRIP RELAY		232	1	MVAJ105	ALSTOM	MVAJ105RA0802A	UK	
				AUXILIARY VOLTAGE : 110 - 125V DC								
				OUTPUT CONTACTS : 8NO+2NC								
B				OPERATION INDICATOR : HAND RESET FLAG								
	9	U25.5002	85R1	HIGH BURDEN TYPE SELF RESET TRIP RELAY		233	1	MVAJ101	ALSTOM	MVAJ101RA0800A	UK	
				AUXILIARY VOLTAGE : 110 - 125V DC								
				OUTPUT CONTACTS : 10 NO								
C				OPERATION INDICATOR : SELF RESET FLAG								
	10	U25.5003	86CBF	HIGH BURDEN TYPE HAND/ELECTRICAL RESET TRIP RELAY		276	1	MVAJ105	ALSTOM	MVAJ105RA0802A	UK	
				AUXILIARY VOLTAGE : 110 - 125V DC								
				OUTPUT CONTACTS : 8NO+2NC								
D				OPERATION INDICATOR : HAND RESET FLAG								
	11	U25.5004	86B-1	HIGH BURDEN TYPE HAND/ELECTRICAL RESET TRIP RELAY		276	1	MVAJ105	ALSTOM	MVAJ105RA0802A	UK	
				AUXILIARY VOLTAGE : 110 - 125V DC								
				OUTPUT CONTACTS : 8NO+2NC								
E				OPERATION INDICATOR : HAND RESET FLAG								
	12	U25.5005	86B-2	HIGH BURDEN TYPE HAND/ELECTRICAL RESET TRIP RELAY		277	1	MVAJ105	ALSTOM	MVAJ105RA0802A	UK	
				AUXILIARY VOLTAGE : 110 - 125V DC								
				OUTPUT CONTACTS : 8NO+2NC								
F				OPERATION INDICATOR : HAND RESET FLAG								
G												
AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		LIST OF APPARATUS		الشركة الوطنية لنقل الكهرباء National Grid sa				
	13 49		DRAWN BY RIZ CHECKED BY KVR		132kV UGF-SPARE-2 RELAY PANEL-1+R06.1		INDEX	PLANT NO.	DRAWING NUMBER		SHEET NO.	REV. NO.
	00	13 04	DATE STARTED 24.01.2013 DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY						SHT	CONT.
	REV. NO.	DATE	DESCRIPTION		RIYADH SAUDI ARABIA		-	C421	CD-322920		L02	L03
			OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC									01



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VECTOR

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NG/D2-D (2012/01)

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	13	U29.101	74R1/74IT1	DUAL COIL RELAY FOR R1 DC /74IT1 DC		232,233	2	RXSF 1	ABB	RK 271 019-AN	SWEDEN		
		U29.301	74RS/74IS	AUXILIARY VOLTAGE : 110-125VDC		277							
				CONTACT DATA : 1NO + 2NC PER COIL									
B	14	U29.107	K01M	BISTABLE RELAY		232	1	RXMVB 4	ABB	RK 251 401-AP	SWEDEN		
				AUXILIARY VOLTAGE : 125V DC									
				CONTACT DATA : 7NC+7NO									
	15	U29.119	TMR/86F1	DELAY FOR PICKUP RELAY		232	3	RXKL1	ABB	1MR 000 066-AB	SWEDEN		
C		U29.319	TMR/86B-1	AUXILIARY VOLTAGE : 24-250V DC		276							
		U29.125	TMR/86B-2	CONTACT DATA : 2C/O		277							
	16	U29.325	R1	RESISTOR UNIT FOR TCS		291	1	RXTMA1	ABB	RK 711 008-AF	SWEDEN		
				RESISTOR WATT : 6.8 K OHMS									
D													
E													
F													
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	REV. NO.	DATE	DESCRIPTION		OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA						01

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	17			MCB 2 POLE 6A, FOR DC SUPPLY WITH 2NC AUXILIARY CONTACT		216	5	S282UC-K6 S2-H02	ABB	GH S282 0164 R0317 GH S270 1916 R0003	GERMANY		
		U39.5001	Q1	R1± SUPPLY									
		U39.5002	Q2	IT1± SUPPLY									
		U36.5001	Q3	RS± SUPPLY									
B		U36.5002	Q4	IS± SUPPLY									
		U36.5003	Q5	TC1± SUPPLY									
	18	U39.5003	C01	CONVENIENCE OUTLET 10A, 127V AC		211	1	USM45 & USMS45	LEGRAND	74140 & 74180	FRANCE		
			C02	CONVENIENCE OUTLET 10A, 220V AC									
	19		C1,C2	MINIATURE CIRCUIT BREAKER, 2 POLE, 10A FOR CONVENIENCE OUTLET WITH AUXILIARY SWITCH, 1NO + 1NC CONTACTS		211	2	S202P-K10 S2C-H11L	ABB	2CDS 252 001 R0427 2CDS 270 1917 R0001	SWEDEN		
C	20		C3	THERMOSTAT FOR SPACE HEATER, 5-60° C		211	1	SK 3110	RITTAL	SK 3110			
	21	U39.5004	TJ	TELEPHONE JACK 1GANG 4WIRE		211	1	EDF410	EDISON	EDF410	THIWAN		
	22		C7	ON/OFF SWITCH FOR SPACE HEATER		211	1	M2SS1-10B MCBH-10	ABB	1SFA 611 200 R1006 1SFA 611 605 R1101	SWEDEN		
	23		DS	DOOR SWITCH FOR CONTROL OF CUBICLE INTERNAL ILLUMINATION LAMP		211	1	LS30P	ABB	1SBV 010213 R1202	SWEDEN		
	24		IL	INTERNAL ILLUMINATION CUBICLE LAMP SUITABLE FOR 127V AC, 60Hz SUPPLY, 20W		211	1	T-4	SUNON	SP-20W			
D	25		SH	SPACE HEATER, 150W, 120V, 60Hz		211	1	RICA	GRUPPO	1FZEK 006 C001	ITALY		
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	SR. NO.	ITEM DESIGNATION	D E S C R I P T I O N			SHEET.NO.	QTY.	TYPE	MAKE	ORDERING INFORMATION	COUNTRY OF ORIGIN
	23	X1	BOLT CONNECTING TERMINAL BLOCKS FOR DISCONNECTABLE CT CIRCUITS			601	10	OTTA 6T P/P	PHOENIX	0790462	GERMANY
B		X2	SPRING LOADED TERMINAL BLOCKS FOR DISCONNECTABLE VT CIRCUITS			601	10	D6/8.STI.RS	ENTRELEC	1SNA 115 831 R0400	FRANCE
		X3	SPRING LOADED TERMINAL BLOCKS FOR DISCONNECTABLE AC CIRCUITS			601	10	D6/8.ST1.RS	ENTRELEC	1SNA 115 831 R0400	FRANCE
		X41	SPRING LOADED TERMINAL BLOCK FOR DISCONNECTABLE DC CIRCUITS			601	30	D6/8.ST1.RS	ENTRELEC	1SNA 115 831 R0400	FRANCE
C		X51	SPRING LOADED TERMINAL BLOCK FOR DC PROTN. CIRCUITS			601	65	M6/8.RS	ENTRELEC	1SNA 115 688 R2500	FRANCE
		X6	SPRING LOADED TERMINAL BLOCK FOR FOR COMMON ALARM			601	5	M6/8.RS	ENTRELEC	1SNA 115 688 R2500	FRANCE
		X61	KNIFE TYPE TERMINAL BLOCKS FOR COMMON ALARM CIRCUITS			601	15	M6/8.SNB	ENTRELEC	1SNA 115 685 R1200	FRANCE
D		X9	SPRING LOADED TERMINAL BLOCKS FOR SPARE CIRCITS			601	20	M6/8.RS	ENTRELEC	1SNA 115 688 R2500	FRANCE
		XD	TERMINAL BLOCKS WITH BLOCKING DIODE, Vrrm=1kV, If=3A AND SURGE TRAP, ENERGY ABSORPTION RATING 8J (10/1000mS)			276	3	N4/6.S IN5408 V150ZA1	ENTRELEC MEJDAF RS	11521310 02-049 239-270	FRANCE
		XTJ	SPRING LOADED TERMINAL BLOCKS FOR TELEPHONE JACK			601	5	M6/8.RS	ENTRELEC	1SNA 115 688 R2500	FRANCE
E		XSH	SPRING LOADED TERMINAL BLOCKS FOR SPACE HEATER			601	3	M6/8.RS	ENTRELEC	1SNA 115 688 R2500	FRANCE
F											
G	AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		LIST OF APPARATUS		الشركة الوطنية لنقل الكهرباء National Grid sa		
	01	13 49	FACTORY ASBUILT		DRAWN BY RIZ CHECKED BY KVR		132kV UGF-SPARE-2 RELAY PANEL-1+R06.1		INDEX PLANT NO. DRAWING NUMBER SHEET NO. REV. NO.		
	00	13 04	FOR APPROVAL		DATE STARTED 24.01.2013 DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY		- C421 CD-322920 L05 L06 01		
	REV. NO.	DATE	DESCRIPTION		OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA		NG/D2-D (2012/01) DMS VECTOR NGD200		

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	REV. NO.	DATE	DESCRIPTION		OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA				
								الشركة الوطنية لنقل الكهرباء		نقل الكهرباء National Grid sa	
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								-	C421	CD-322920	
										SHEET NO.	REV. NO.
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NG/D2-D (2012/01)

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RIYADH	SAUDI ARABIA	-	C421	CD-322920		
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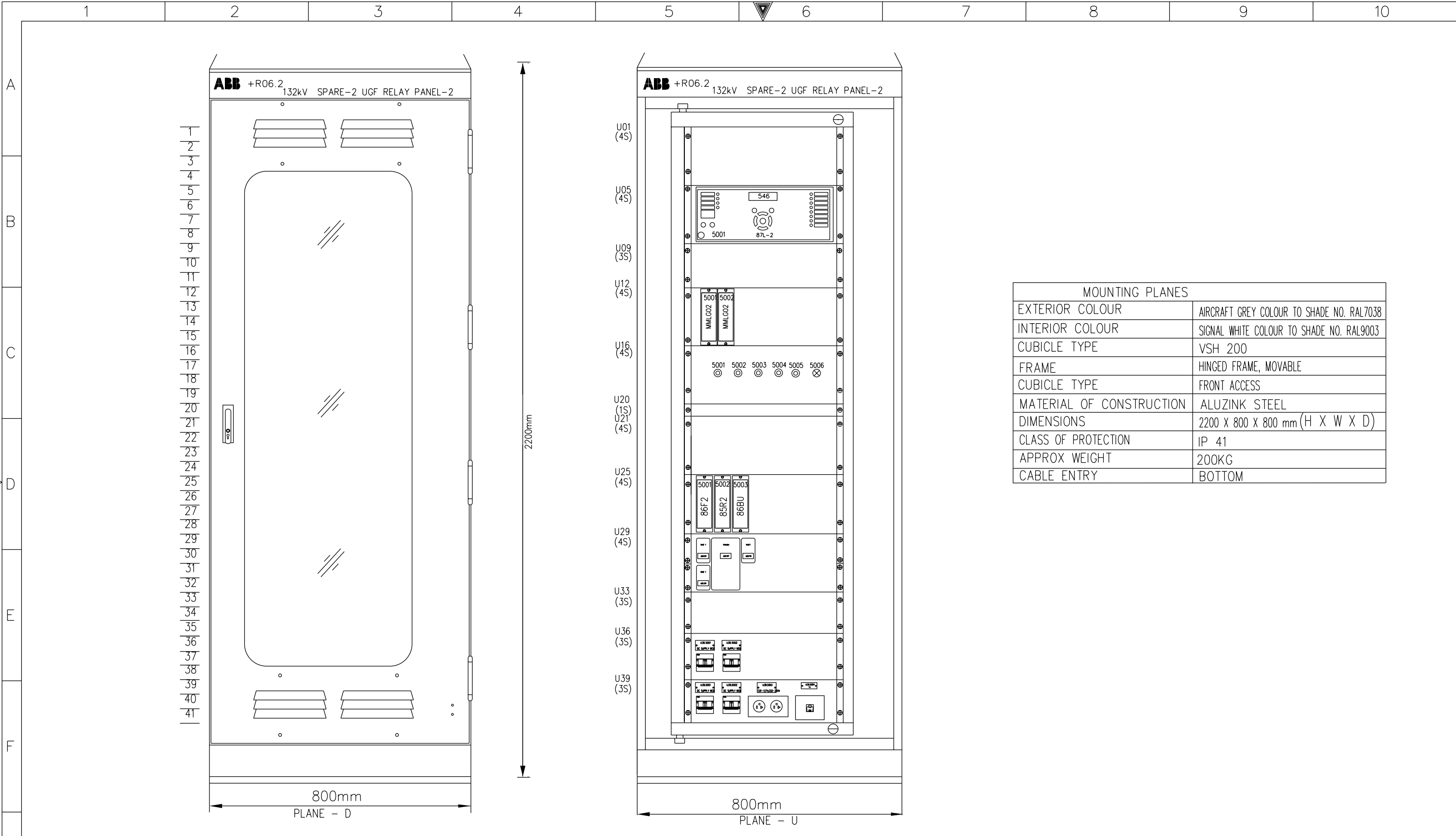
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NG/D2-D (2012/01)

DMS

VECTOR

NGD200



MOUNTING PLANES	
EXTERIOR COLOUR	AIRCRAFT GREY COLOUR TO SHADE NO. RAL7038
INTERIOR COLOUR	SIGNAL WHITE COLOUR TO SHADE NO. RAL9003
CUBICLE TYPE	VSH 200
FRAME	HINGED FRAME, MOVABLE
CUBICLE TYPE	FRONT ACCESS
MATERIAL OF CONSTRUCTION	ALUZINK STEEL
DIMENSIONS	2200 X 800 X 800 mm (H X W X D)
CLASS OF PROTECTION	IP 41
APPROX WEIGHT	200KG
CABLE ENTRY	BOTTOM

AS-BUILT BY _____ DATE _____

CONTRACT NO. 11131113/00

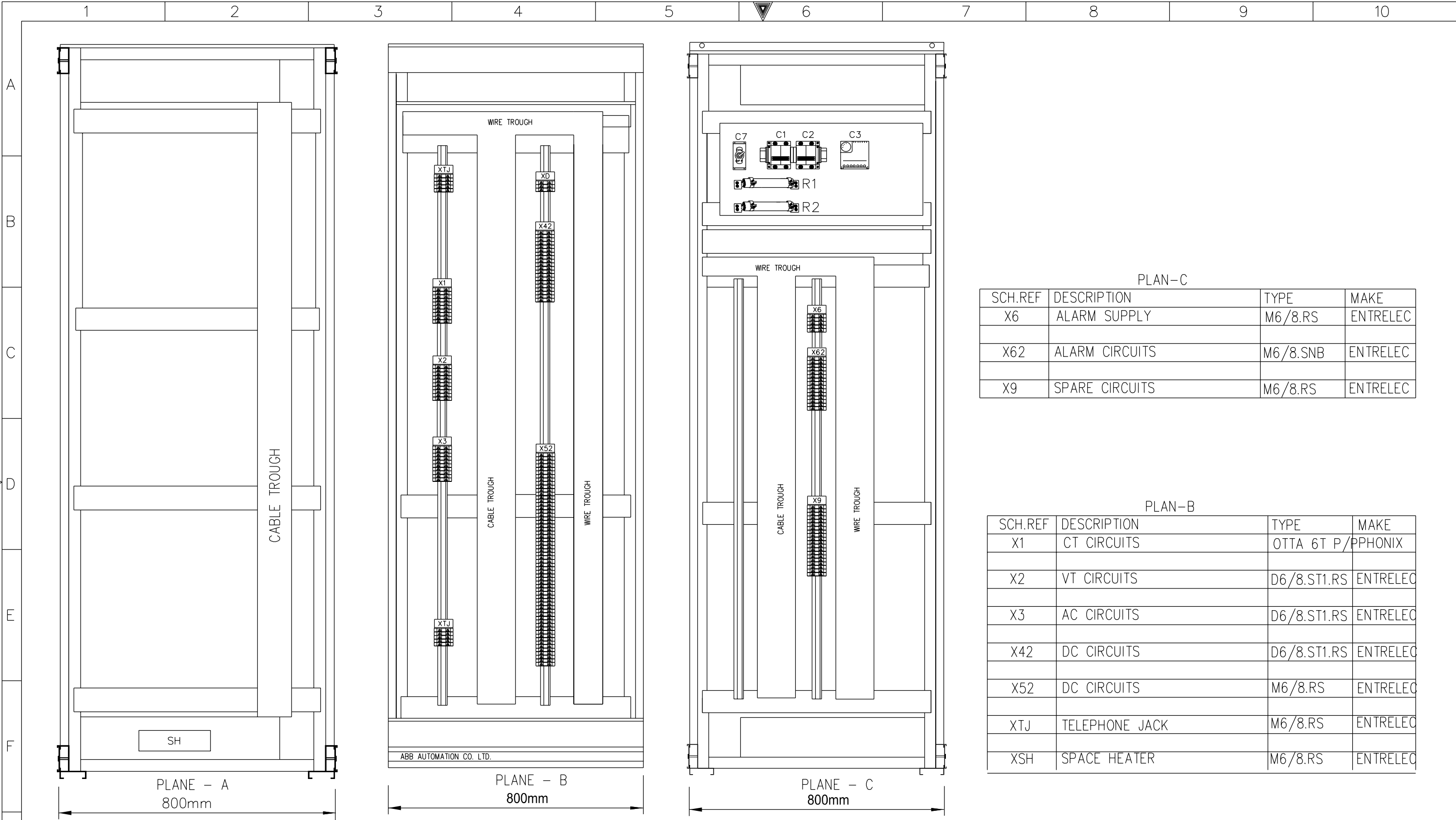
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01	13 49	FACTORY ASBUILT
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DRAWN BY RIZ	CHECKED BY KVR
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OPRG. DEPT. CTPD	ENG. DEPT. AUT-PSAC

ASSEMBLY DRAWING	
132kV UGF-SPARE-2 RELAY PANEL-2+R06.2	
S/S 8709-132/13.8KV IN AL-KHARJ CITY	
RIYADH SAUDI ARABIA	

الشركة الوطنية لنقل الكهرباء				نقل الكهرباء		
				National Grid SA		
INDEX	PLANT NO.	DRAWING NUMBER		SHEET NO.		REV. NO.
-	C421	CD-322921		SHT	CONT.	01
				G01	G02	



PLAN-C

SCH.REF	DESCRIPTION	TYPE	MAKE
X6	ALARM SUPPLY	M6/8.RS	ENTRELEC
X62	ALARM CIRCUITS	M6/8.SNB	ENTRELEC
X9	SPARE CIRCUITS	M6/8.RS	ENTRELEC

PLAN-B

SCH.REF	DESCRIPTION	TYPE	MAKE
X1	CT CIRCUITS	OTTA 6T P/PPHONIX	
X2	VT CIRCUITS	D6/8.ST1.RS	ENTRELEC
X3	AC CIRCUITS	D6/8.ST1.RS	ENTRELEC
X42	DC CIRCUITS	D6/8.ST1.RS	ENTRELEC
X52	DC CIRCUITS	M6/8.RS	ENTRELEC
XTJ	TELEPHONE JACK	M6/8.RS	ENTRELEC
XSH	SPACE HEATER	M6/8.RS	ENTRELEC

AS-BUILT BY _____ DATE _____

CONTRACT NO. 11131113/00

JOB ORDER NO. S-13656

0113 49FACTORY ASBUILT

0013 04FOR APPROVAL

REV. NO. DATE DESCRIPTION

DRAWN BY RIZ CHECKED BY KVR

DATE STARTED 24.01.2013 DATE COMPLETED _____

OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC


ASSEMBLY DRAWING

132kV UGF-SPARE-2 RELAY PANEL-2+R06.2

S/S 8709-132/13.8KV IN AL-KHARJ CITY

RIYADH SAUDI ARABIA

الشركة الوطنية لنقل الكهرباء

نقل الكهرباء

National Grid sa

INDEX

PLANT NO.

DRAWING NUMBER

SHEET NO.

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REV. NO.

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C421

CD-322921

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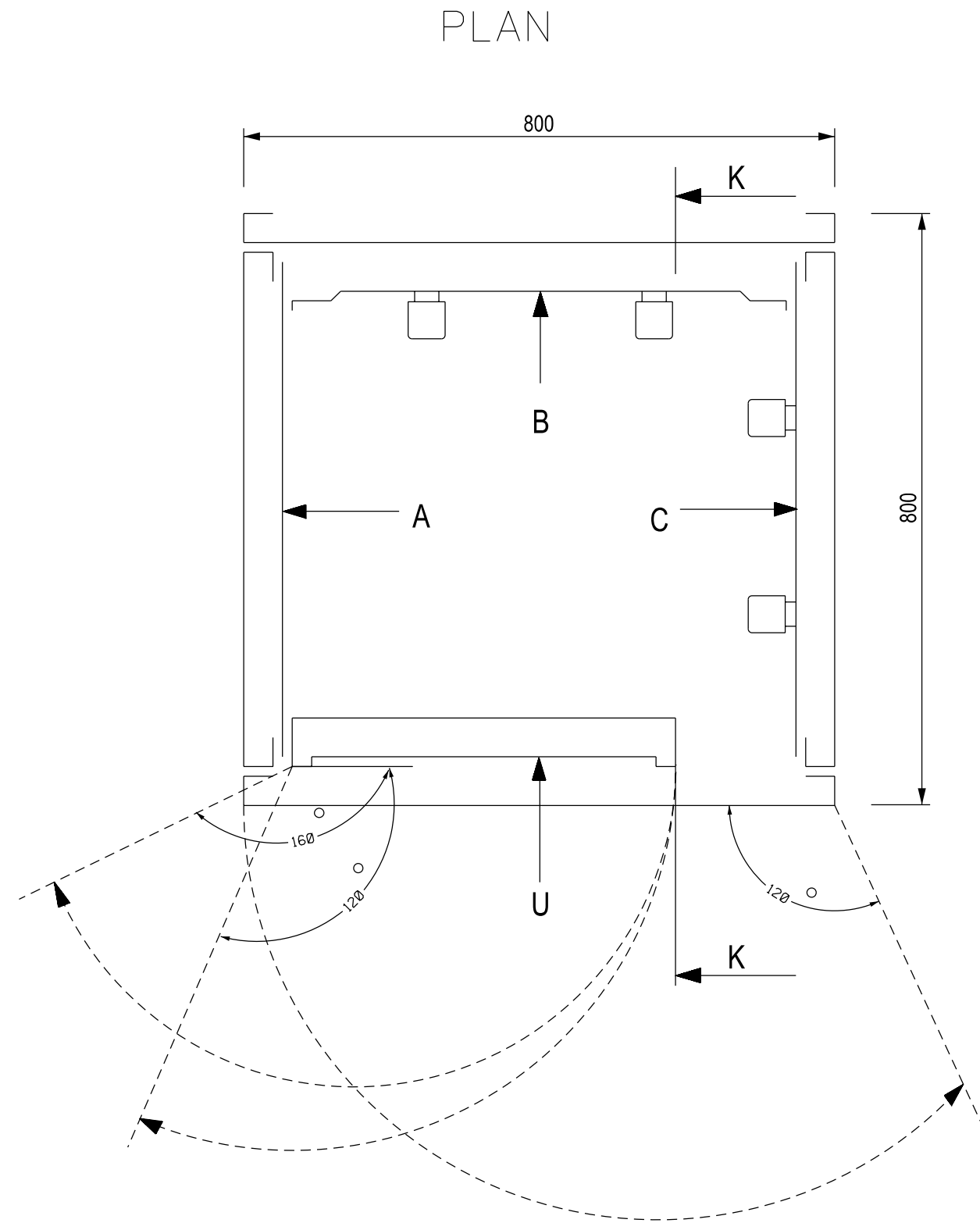
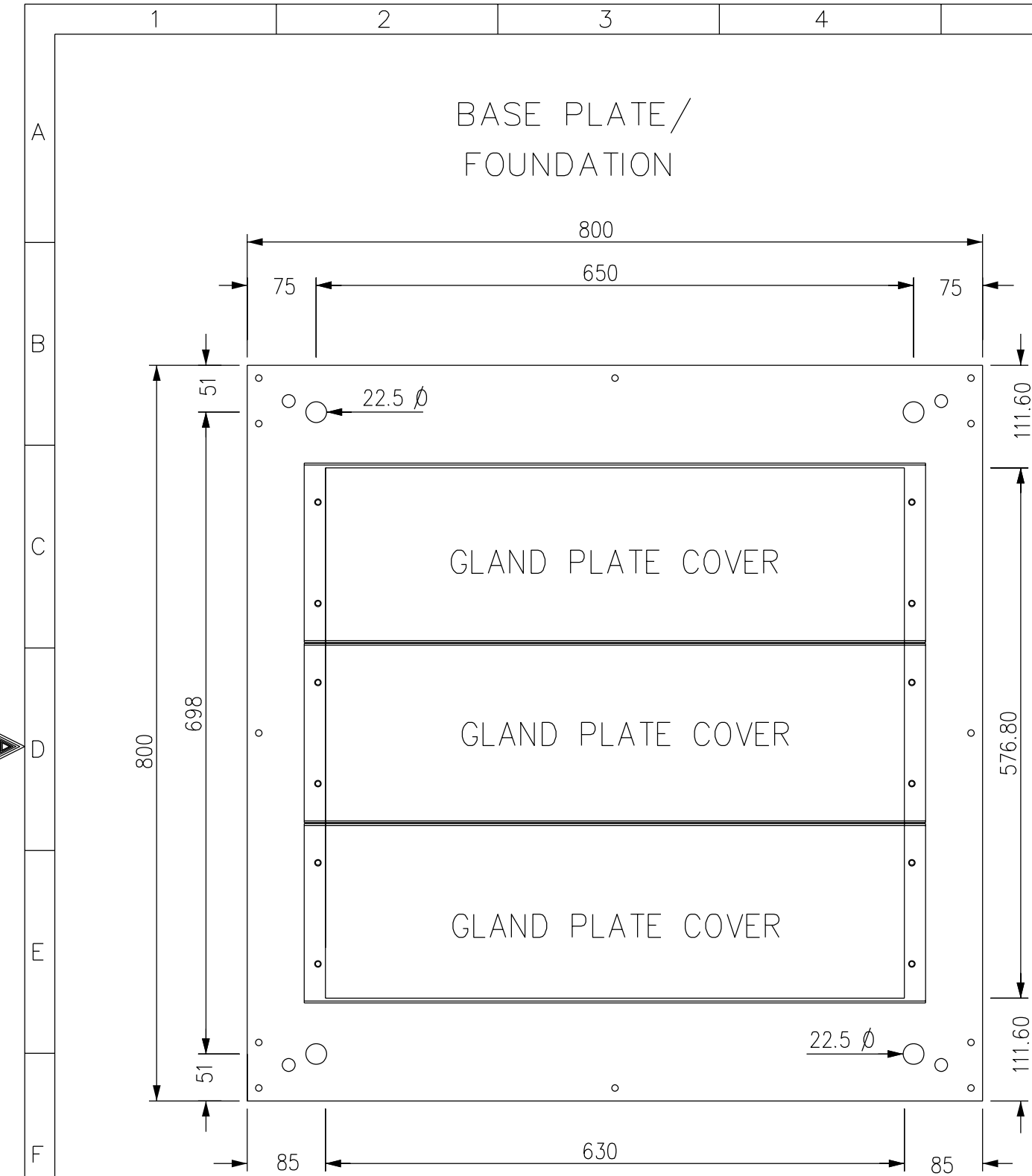
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132kV UGF-SPARE-2 RELAY PANEL-2+R06.2	
S/S 8709-132/13.8KV IN AL-KHARJ CITY	
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A	SR. NO.	LOC. REF	SCH. REF.	D E S C R I P T I O N		SHT	QTY.	TYPE	MAKE	ORD INFORMATION	COUNRTY OF ORIGIN
				RELAY CUBICLE- +R06.2 ACCOMODATING THE FOLLOWING			1				
	1	U05.5001	87L-2	NUMERICAL HIGH SPEED CURRENT DISTANCE PROTECTION		498	1	P546	ALSTOM	P54631NK6M0710M	UK
				VERSION : 1 & 3 POLE TRIPPING/RECLOSING MHO/QUAD CHAR							
				AUX : 110V-250V DC : 100-120V							
B				In/Vn : DUAL RATED CT (1/5A)							
				HARDWARE : EHTHER NET (100mbits) PLUS irig-b modulated							
				PRODUCT OPTION : CH1-1300nm SINGLE MODE							
				CH2-1300nm SINGLE MODE							
				PROTOCOL OPTION : IEC61850+COURIER VIA REAR RS485 PORT							
C				MOUNTING : 19" RACK,2A LOGICAL INPUTS,32 RELAY OUT PUTS							
				LANGUAGE : ENGLISH							
				SOFTWARE : 71							
	2	U12.5001	TS-1	TEST SWITCH FOR P546 RELAY		422	2	MMLG02	ALSTOM	MMLG02 R1AA 0001E	UK
		U12.5002	TS-2								
D	3	U16.5001	S03	PUSH BUTTON FOR FPSM IN SELECTION		432	1	MP1-10B	ABB	1SFA 611 100 R1006	SWEDEN
				BUTTON COLOUR : BLACK				MCBH-20		1SFA 611 605 R1102	
				CONTACT DATA : 1NO + 1NC							
	4	U16.5002	S04	PUSH BUTTON FOR FPSM OUT SELECTION		432	1	MP1-10B	ABB	1SFA 611 100 R1006	SWEDEN
				BUTTON COLOUR : BLACK				MCBH-20		1SFA 611 605 R1102	
E				CONTACT DATA : 1NO + 1NC							
	5	U16.5003	S86BU	PUSH BUTTON FOR 86BU RESET		443	1	MP1-10B	ABB	1SFA 611 100 R1006	SWEDEN
				BUTTON COLOUR : BLACK				MCBH-20		1SFA 611 605 R1102	
				CONTACT DATA : 1NO + 1NC							
	6	U16.5004	S86F2	PUSH BUTTON FOR 86F2 RESET		432	1	MP1-10B	ABB	1SFA 611 100 R1006	SWEDEN
F				BUTTON COLOUR : BLACK				MCBH-20		1SFA 611 605 R1102	
				CONTACT DATA : 1NO + 1NC							
	7	U16.5005	LT	PUSH BUTTON FOR 86F2 RESET		431	1	MP1-10B	ABB	1SFA 611 100 R1006	SWEDEN
				BUTTON COLOUR : BLACK				MCBH-20		1SFA 611 605 R1102	
				CONTACT DATA : 1NO + 1NC							
G	8	U16.5006	L01	INDICATION LAMP OUT		431	1	MC1-100W	ABB	1SFA 611 400 R1003	SWEDEN
				LENS : WHITE				MCBH-003		1SFA 611 605 R1400	
				LENS RATING 110-130V,4-6MA				KA2-2145		1SFA 616 921 R2145	
				HOLDER RATING :130V WITH RESISTORS DIODE BLOCK							
G	AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		COVER SHEET		الشركة الوطنية لنقل الكهرباء National Grid sa		
	01	13 49	FACTORY ASBUILT		DRAWN BY RIZ CHECKED BY KVR		132kV UGF-SPARE-2 RELAY PANEL-2+R06.2		INDEX PLANT NO. DRAWING NUMBER SHEET NO. REV. NO.		
	00	13 04	FOR APPROVAL		DATE STARTED 24.01.2013 DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY		- C421 CD-322921 L01L02 01		
	REV. NO.	DATE	DESCRIPTION		OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA				



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B	SR. NO.	GA REF.	SCH. REF.	D E S C R I P T I O N		SHEET NO.	QTY.	TYPE	MAKE	ORD INFORMATION	COUNRTY OF ORIGIN
	9	U25.5001	86F2	HIGH BURDEN TYPE SELF RESET TRIP RELAY		432	1	MVAJ105	ALSTOM	MVAJ105RA0802A	UK
				TRIPPING RELAY : HIGH BURDEN TYPE							
				AUXILIARY VOLTAGE : 125VDC							
				CONTACTS 8NO+ 2NC ELECTRICAL							
C				FLAG : HAND RESET							
				CONTACT MECHANISIM : HAND & ELECTRICALLY RESET							
	10	U25.5002	85R2	HIGH BURDEN TYPE SELF RESET TRIP RELAY		432	1	MVAJ101	ALSTOM	MVAJ101RA0800A	UK
				AUXILIARY VOLTAGE : 110 – 125V DC							
				OUTPUT CONTACTS : 10 NO							
D				OPERATION INDICATOR : RESET FLAG							
	11	U25.5003	86BU	HIGH BURDEN TYPE HAND / ELECTRICAL RESET TRIP RELAY		443	1	MVAJ105	ALSTOM	MVAJ105RA0802A	UK
				TRIPPING RELAY : HIGH BURDEN TYPE							
				AUXILIARY VOLTAGE : 110–125VDC							
				CONTACTS : 8NO+2NC ELECTRICAL							
E				CONTACT MECHANISIM : HAND & ELECTRICALLY RESET							
				FLAG : HAND RESET							
F											
G											

AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		LIST OF APPARATUS		الشركة الوطنية لنقل الكهرباء		نقل الكهرباء National Grid sa			
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REV. NO.	DATE	DESCRIPTION	OPRG. DEPT. CTPD		ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA							

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				RELAY CUBICLE- +R06.2 ACCOMODATING THE FOLLOWING									
	12	U29.101	74R2/74R3	DUAL COIL RELAY FOR + R2/R3 DC SUPERVISION		432,443	2	RXSF 1	ABB	RK 271 019-AN	SWEDEN		
		U29.119	74IT2	AUXILIARY VOLTAGE : 110-125VDC		433							
C				CONTACT DATA : 1NO + 2NC PER COIL									
	13	U29.107	K01S	BISTABLE RELAY FOR "IN/OUT SELECTION"		432	1	RXMVB4	ABB	1MRK 251 401 AP	SWEDEN		
				AUXILIARY VOLTAGE : 110 - 125V DC									
				OUTPUT CONTACTS : 7NO + 7NC									
D	14	U29.301	TMR/86F2	DELAY ON PICKUP DELAY FOR RESET 86F2		432	1	RXKL1	ABB	1MRK 000-066-AB	SWEDEN		
				AUXILIARY VOLTAGE : 110-125VDC									
				CONTACT DATA : 2 C/O									
				TIMER RANGE : 20MS-99 hrs									
E													
F													
G	AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		LIST OF APPARATUS		الشركة الوطنية لنقل الكهرباء National Grid sa				
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	15			MCB 2 POLE 6A, FOR DC SUPPLY WITH 2NC AUXILIARY CONTACT		416	4	S 282 UC-K6 S2-H02	ABB	GH S282 0164 R0377 GH S270 1916 R0003	GERMANY
B		U39.5001	Q1	Q1 R2± SUPPLY							
		U39.5002	Q2	Q2 R3 ± SUPPLY							
		U36.5001	Q3	Q3 IT2+ SUPPLY							
		U36.5002	Q4	Q4 TC2 + SUPPLY							
C											FRANCE
	16	U39.5003	C01	CONVENIENCE OUTLET 10A, 127V AC		411	1	USM45 & USMS45	LEGRAND	74140 & 74180	
			C02	CONVENIENCE OUTLET 10A, 220V AC							
			C1,C2	MINIATURE CIRCUIT BREAKER, 2 POLE, 10A FOR CONVENIENCE OUTLET WITH AUXILIARY SWITCH, 1NO + 1NC CONTACTS		411	2	S202P-K10 S2C-H11L	ABB	2CDS 253 001 R0104 2CDS 200 936 R0001	GERMANY
D	17		C3	THERMOSTAT FOR SPACE HEATER, 5-60° C		411	1	SK 3110	RITTAL	SK 3110	THIWAN
	18	U39.5004	TJ	TELEPHONE JACK 1GANG 4WIRE		411	1	EDF410	EDISON	EDF410	SWEDEN
	19		C7	ON/OFF SWITCH FOR SPACE HEATER		411	1	M2SS1-10B MCBH-10	ABB	1SFA 611 200 R1006 1SFA 611 605 R1101	
	20		DS	DOOR SWITCH FOR CONTROL OF CUBICLE INTERNAL ILLUMINATION LAMP		411	1	LS30PKB1302	ABB	1SBV 010213 R1202	SWEDEN
E	21		IL	INTERNAL ILLUMINATION CUBICLE LAMP SUITABLE FOR 127V AC, 60Hz SUPPLY, 20W		411	1	T-4	SUNON	SP-20W	
	22		SH	SPACE HEATER, 150W, 120V, 60Hz		411	1	RICA	GRUPPO	1FZEK 006 C001	ITALY
	23		R1	FIXED RESISTOR FOR TRIP CIRCUIT SUPERVISION CKT.		491	2	GRF 30/200	DANOTHERM	GRF 30/200	GERMANY
			R2	2.5Kohm,15W							
F											
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	REV. NO.	DATE	DESCRIPTION		OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA		- C421 CD-322921 L04 L05		



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A			POWER SYSTEMS NETWORK MANAGEMENT PROTECTION AND SUBSTATION AUTOMATION SYSTEMS WBS NO: S-13656					ABB AUTOMATION COMPANY LTD. 414, AL-KHARJ ROAD SECOND INDUSTRIAL CITY RIYADH-11383 K.S.A																																																																																																																																						
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D	CONTRACTOR : ABB Contracting Company																																																																																																																																													
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	PROJECT : CONSTRUCTION OF NEW 132/13.8kV SS 8709 IN AL-KHARJ CITY																																																																																																																																													
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CONTENTS			ABB SHT.NO.	REV.00	REV.01	REV.02
COVER SHEET			000	X	X	
CONTENTS SHEET			001	X	X	
CONTENTS SHEET			002	X	X	
GRAPHICAL SYMBOLS FOR DIAGRAMS			011	X	X	
GRAPHICAL SYMBOLS FOR DIAGRAMS			012	X	X	
COMMON LEGEND			013	X	X	
FERULE AND WIRING DETAILS			014	X	X	
DRAWING REFERENCE			015	X	X	
DRAWING REFERENCE			016	X	X	
PRIMARY SYSTEM			051-052	X	X	
AC SUPPLY FOR ILLUMINATION & POWER SOCKET			211	X	X	
AC MCB AUX CONTACTS			212	X	X	
DC SUPPLY DISTRIBUTION			216	X	X	
CURRENT TRANSFORMER INPUTS -87L-1			221	X	X	
VOLTAGE TRANSFORMER INPUTS - 87L-1			222	X	X	
COMMUNICATION CIRCUITS			223	X	X	
MAIN-1 PROT. 87L-1 RELAY - BINARY INPUTS			231	X	X	
MAIN-1 CABLE DIFFL. PROTECTION TRIP RELAY CKT.			232	X	X	
MAIN-1 INTER TRIP RELAY CKT.			233	X	X	
COMMUNICATION INTERFACE			246	X	X	
CBF-1/2 & BUSBAR PROTN-1 TRIP RELAY CIRCUIT			276	X	X	
BUSBAR PROTN-2 TRIP RELAY CIRCUIT			277	X	X	
MAIN-1 INDICATION CIRCUIT			278	X	X	
TRIP COIL-1 SUPERVISION CIRCUIT			291	X	X	
TRIP COIL-2/DELAYTRIP/CBF INITIATION CONTACTS			292	X	X	

CONTENTS			ABB SHT.NO.	REV.00	REV.01	REV.02
CLOSE BLOCK CIRCUIT			293	X	X	
COMMON ALARM CIRCUITS			294	X	X	
SPARE CONTACTS			295	X	X	
BLOCK REFERENCE (TRM MODULE)			298	X	X	
BLOCK REFERENCE (BI)			299	X	X	
BLOCK REFERENCE (BO)			300	X	X	
TERMINAL BLOCKS PANEL +R06.1			601	X	X	

AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656	
DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>		CONTENTS SHEET 132kV UGF-SPARE-2 RELAY PANEL-1/2 S/S 8709-132/13.8KV IN AL-KHARJ CITY RIYADH SAUDI ARABIA			
DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____					
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REV. NO.	DATE	DESCRIPTION			




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INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
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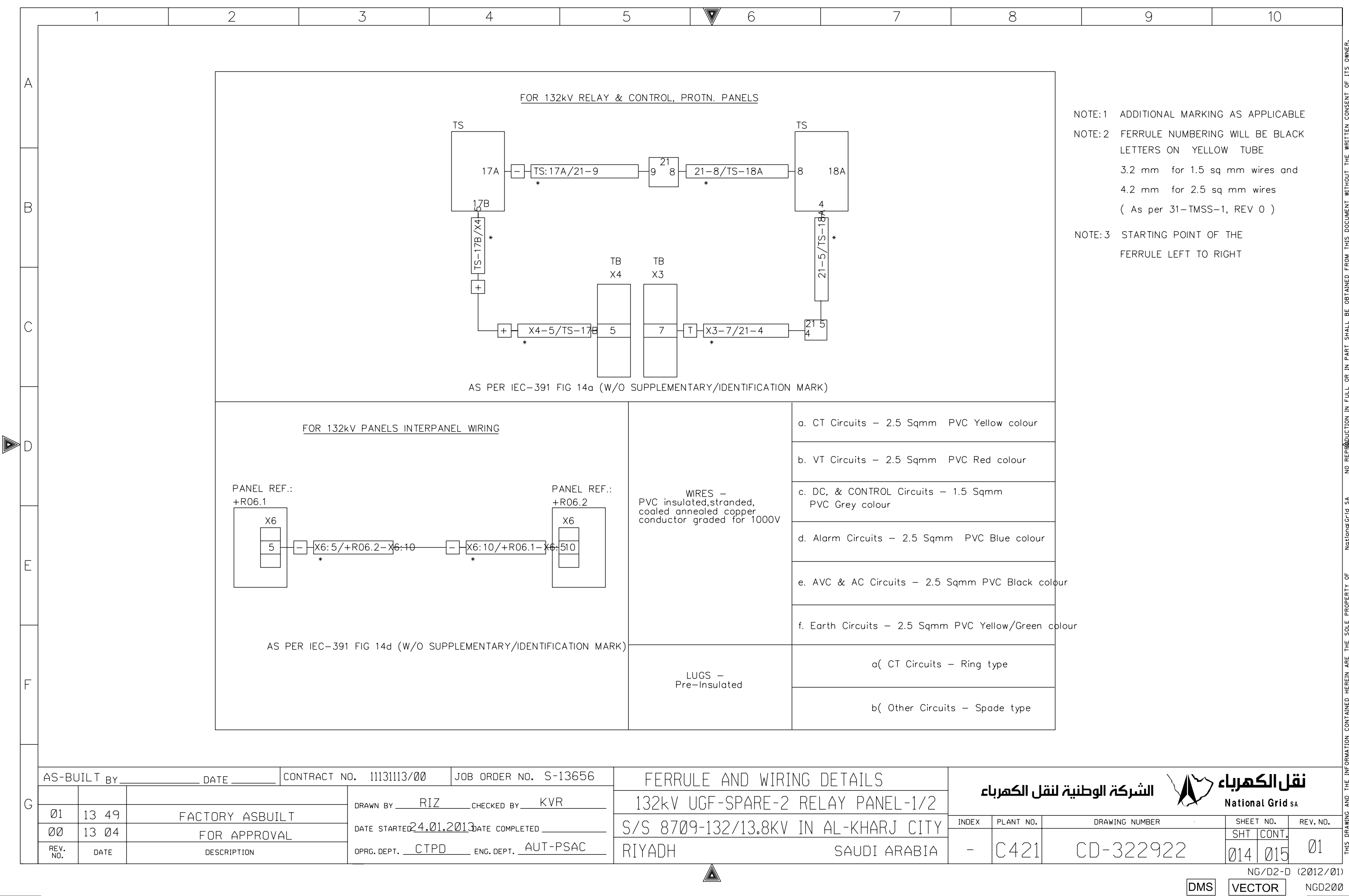
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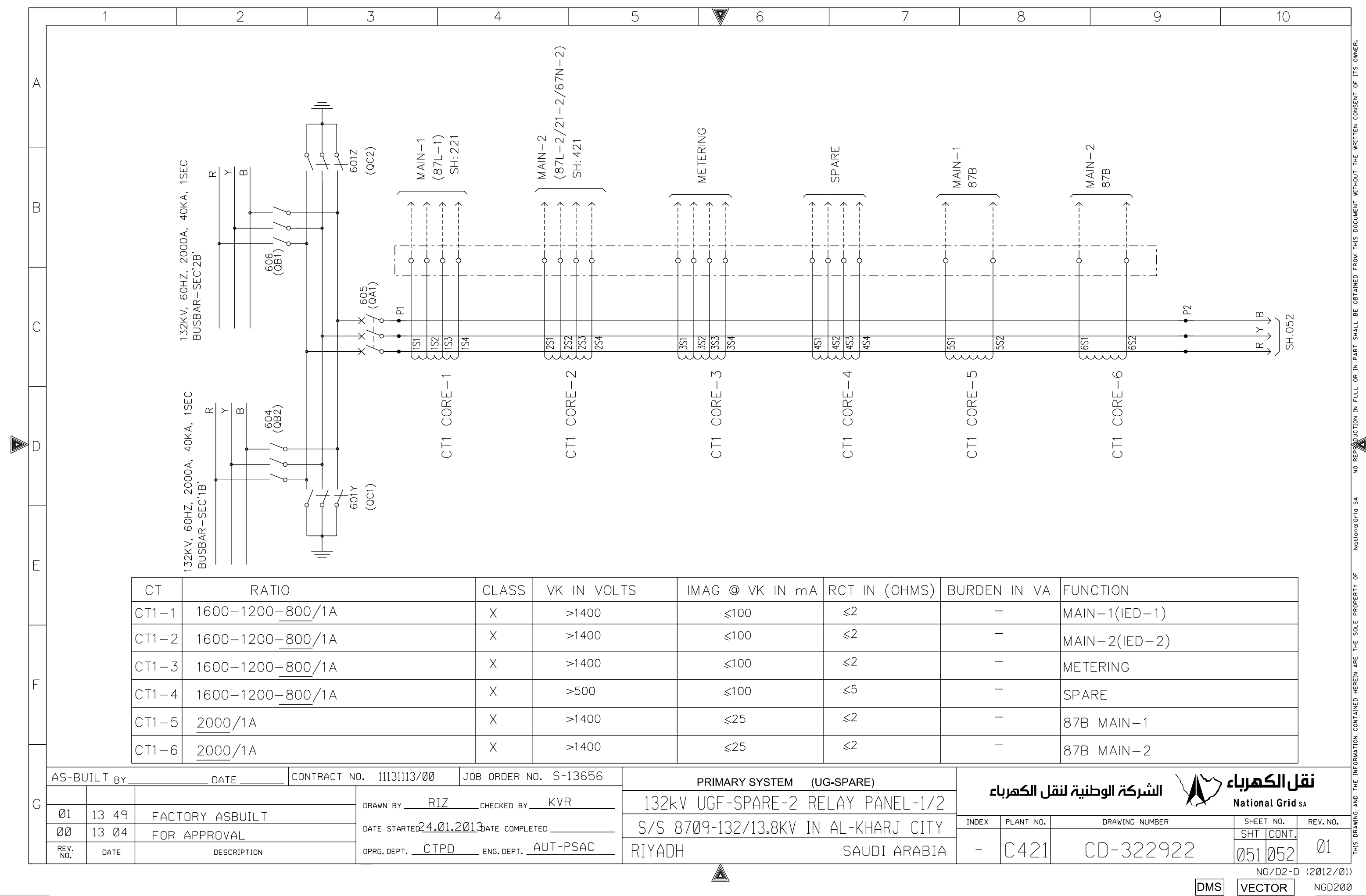
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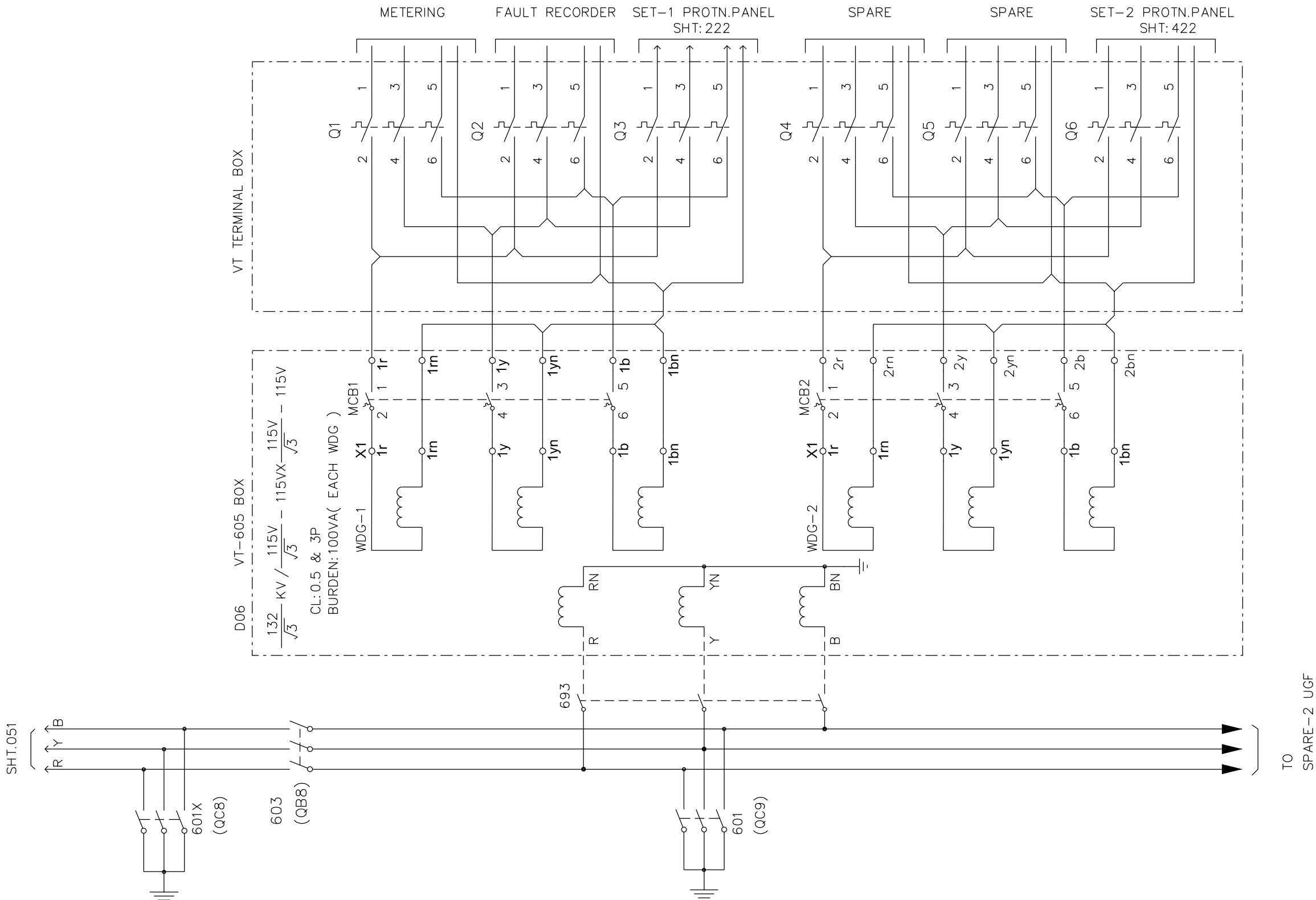
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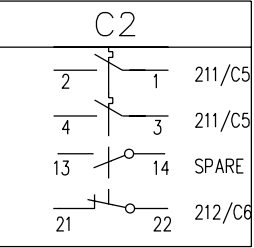
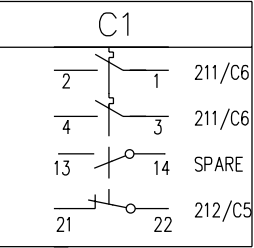
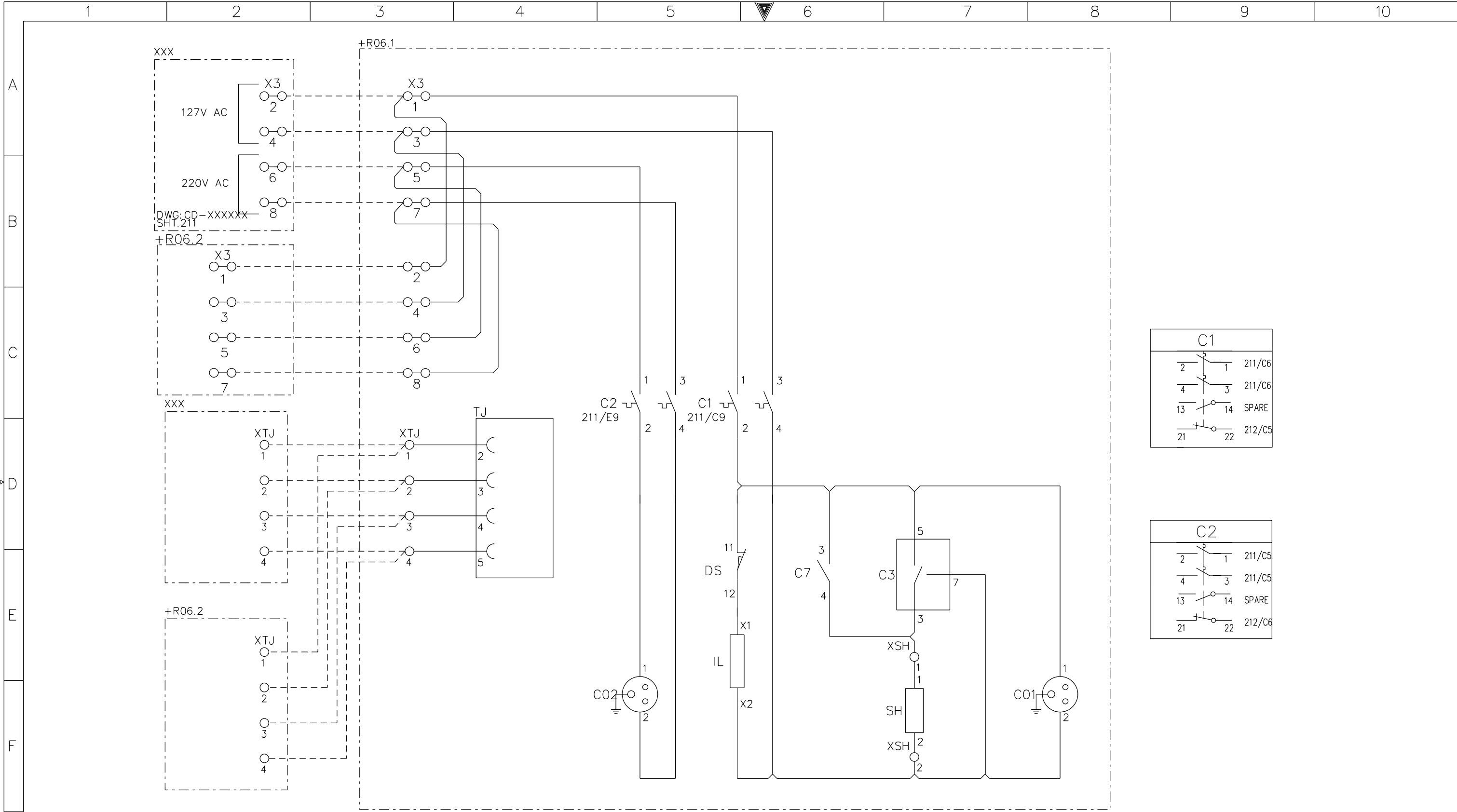
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A	<div><div>ABB</div><div>PROTECTION & SUBSTATION AUTOMATION</div></div> <table><thead><tr><th>MANUFACTURER</th><th>SCHEMATICS DWG.NO</th><th>PANEL DESCRIPTION</th><th>PANEL REFERENCE</th></tr></thead><tbody><tr><td rowspan="20"></td><td></td><td>SS 8709 132kV RELAY PANELS</td><td></td></tr><tr><td rowspan="2">CD-322928</td><td>132/13.8kV GT-1 RELAY PANEL -1</td><td>+R05.1</td></tr><tr><td>132/13.8kV GT-1 RELAY PANEL -2</td><td>+R05.2</td></tr><tr><td rowspan="2">CD-322931</td><td>132/13.8kV GT-2 RELAY PANEL -1</td><td>+R06.1</td></tr><tr><td>132/13.8kV GT-2 RELAY PANEL -2</td><td>+R06.2</td></tr><tr><td rowspan="2">CD-322934</td><td>132/13.8kV GT-3 RELAY PANEL -1</td><td>+R04.1</td></tr><tr><td>132/13.8kV GT-3 RELAY PANEL -2</td><td>+R04.2</td></tr><tr><td>CD-322936</td><td>132/13.8kV TRANSFORMER-1,2& 3 AVC PANEL</td><td>+AVC</td></tr><tr><td rowspan="2">CD-322922</td><td>132KV SPARE-1 UGF RELAY PANEL -1</td><td>+R07.1</td></tr><tr><td>132KV SPARE-1 UGF RELAY PANEL -2</td><td>+R07.2</td></tr><tr><td rowspan="2">CD-322916</td><td>132KV 8020 UGF RELAY PANEL -1</td><td>+R02.1</td></tr><tr><td>132KV 8020 UGF RELAY PANEL -2</td><td>+R02.2</td></tr><tr><td rowspan="2">CD-322922</td><td>132KV SPARE UGF RELAY PANEL -1</td><td>+R06.1</td></tr><tr><td>132KV SPARE UGF RELAY PANEL -2</td><td>+R06.2</td></tr><tr><td rowspan="2">CD-322925</td><td>132KV SPARE-2 UGF RELAY PANEL -1</td><td>+R06.1</td></tr><tr><td>132KV SPARE-2 UGF RELAY PANEL -2</td><td>+R06.2</td></tr><tr><td>CD-326012</td><td>132KV FOIP PANEL</td><td>+FOIP</td></tr><tr><td>CD-322946</td><td>132kV BUS COUPLER-A</td><td>+R130</td></tr><tr><td>CD-322948</td><td>132kV BUS COUPLER-B</td><td>+R230</td></tr><tr><td>CD-322950</td><td>132kV BUS SECTION</td><td>+R120</td></tr><tr><td>CD-322991</td><td>132kV BUSBAR PROTECTION MAIN-1 CENTRAL UNIT PANEL</td><td>+BB1-1</td></tr><tr><td>CD-322993</td><td>132kV BUSBAR PROTECTION MAIN-1 BAY UNIT PANEL</td><td>+BB1-2</td></tr><tr><td>CD-322995</td><td>132kV BUSBAR PROTECTION MAIN-1 BAY UNIT PANEL</td><td>+BB1-3</td></tr><tr><td>CD-322997</td><td>132kV BUSBAR PROTECTION MAIN-1 BAY UNIT PANEL</td><td>+BB1-4</td></tr><tr><td>CD-322999</td><td>132kV BUSBAR PROTECTION MAIN-1 BAY UNIT PANEL</td><td>+BB1-5</td></tr><tr><td>CD-323001</td><td>132kV BUSBAR PROTECTION MAIN-2 CENTRAL UNIT PANEL</td><td>+BB2-1</td></tr><tr><td>CD-323003</td><td>132kV BUSBAR PROTECTION MAIN-2 BAY UNIT PANEL</td><td>+BB2-2</td></tr><tr><td>CD-323005</td><td>132kV BUSBAR PROTECTION MAIN-2 BAY UNIT PANEL</td><td>+BB2-3</td></tr><tr><td>CD-323007</td><td>132kV BUSBAR PROTECTION MAIN-2 BAY UNIT PANEL</td><td>+BB2-4</td></tr><tr><td>CD-323009</td><td>132kV BUSBAR PROTECTION MAIN-2 BAY UNIT PANEL</td><td>+BB2-5</td></tr></tbody></table>										MANUFACTURER	SCHEMATICS DWG.NO	PANEL DESCRIPTION	PANEL REFERENCE			SS 8709 132kV RELAY PANELS		CD-322928	132/13.8kV GT-1 RELAY PANEL -1	+R05.1	132/13.8kV GT-1 RELAY PANEL -2	+R05.2	CD-322931	132/13.8kV GT-2 RELAY PANEL -1	+R06.1	132/13.8kV GT-2 RELAY PANEL -2	+R06.2	CD-322934	132/13.8kV GT-3 RELAY PANEL -1	+R04.1	132/13.8kV GT-3 RELAY PANEL -2	+R04.2	CD-322936	132/13.8kV TRANSFORMER-1,2& 3 AVC PANEL	+AVC	CD-322922	132KV SPARE-1 UGF RELAY PANEL -1	+R07.1	132KV SPARE-1 UGF RELAY PANEL -2	+R07.2	CD-322916	132KV 8020 UGF RELAY PANEL -1	+R02.1	132KV 8020 UGF RELAY PANEL -2	+R02.2	CD-322922	132KV SPARE UGF RELAY PANEL -1	+R06.1	132KV SPARE UGF RELAY PANEL -2	+R06.2	CD-322925	132KV SPARE-2 UGF RELAY PANEL -1	+R06.1	132KV SPARE-2 UGF RELAY PANEL -2	+R06.2	CD-326012	132KV FOIP PANEL	+FOIP	CD-322946	132kV BUS COUPLER-A	+R130	CD-322948	132kV BUS COUPLER-B	+R230	CD-322950	132kV BUS SECTION	+R120	CD-322991	132kV BUSBAR PROTECTION MAIN-1 CENTRAL UNIT PANEL	+BB1-1	CD-322993	132kV BUSBAR PROTECTION MAIN-1 BAY UNIT PANEL	+BB1-2	CD-322995	132kV BUSBAR PROTECTION MAIN-1 BAY UNIT PANEL	+BB1-3	CD-322997	132kV BUSBAR PROTECTION MAIN-1 BAY UNIT PANEL	+BB1-4	CD-322999	132kV BUSBAR PROTECTION MAIN-1 BAY UNIT PANEL	+BB1-5	CD-323001	132kV BUSBAR PROTECTION MAIN-2 CENTRAL UNIT PANEL	+BB2-1	CD-323003	132kV BUSBAR PROTECTION MAIN-2 BAY UNIT PANEL	+BB2-2	CD-323005	132kV BUSBAR PROTECTION MAIN-2 BAY UNIT PANEL	+BB2-3	CD-323007	132kV BUSBAR PROTECTION MAIN-2 BAY UNIT PANEL	+BB2-4	CD-323009	132kV BUSBAR PROTECTION MAIN-2 BAY UNIT PANEL	+BB2-5
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G	<table><tr><td colspan="3">AS-BUILT BY _____ DATE _____</td><td colspan="2">CONTRACT NO. 11131113/00</td><td colspan="2">JOB ORDER NO. S-13656</td><td colspan="3">DRAWING REFERENCES</td><td colspan="2"><div>الشركة الوطنية لنقل الكهرباء</div><div>نقل الكهرباء</div><div>National Grid sa</div></td></tr><tr><td></td><td></td><td></td><td colspan="2">DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u></td><td colspan="3">132kV UGF-SPARE-2 RELAY PANEL-1/2</td><td>INDEX</td><td>PLANT NO.</td><td>DRAWING NUMBER</td><td>SHEET NO.</td><td>REV. NO.</td></tr><tr><td></td><td>01</td><td>13 49</td><td colspan="2">FACTORY ASBUILT</td><td colspan="3">DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____</td><td colspan="3">S/S 8709-132/13.8KV IN AL-KHARJ CITY</td><td>SHT</td><td>CONT.</td></tr><tr><td></td><td>00</td><td>13 04</td><td colspan="2">FOR APPROVAL</td><td colspan="3">OPRG. DEPT. <u>CTPD</u> ENG. DEPT. <u>AUT-PSAC</u></td><td colspan="3">RIYADH SAUDI ARABIA</td><td>016</td><td>051</td></tr><tr><td></td><td>REV. NO.</td><td>DATE</td><td colspan="2">DESCRIPTION</td><td colspan="3"></td><td>-</td><td>C421</td><td>CD-322922</td><td>016</td><td>051</td></tr></table>										AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		DRAWING REFERENCES			<div>الشركة الوطنية لنقل الكهرباء</div> <div>نقل الكهرباء</div> <div>National Grid sa</div>					DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>		132kV UGF-SPARE-2 RELAY PANEL-1/2			INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.		01	13 49	FACTORY ASBUILT		DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____			S/S 8709-132/13.8KV IN AL-KHARJ CITY			SHT	CONT.		00	13 04	FOR APPROVAL		OPRG. DEPT. <u>CTPD</u> ENG. DEPT. <u>AUT-PSAC</u>			RIYADH SAUDI ARABIA			016	051		REV. NO.	DATE	DESCRIPTION					-	C421	CD-322922	016	051
AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		DRAWING REFERENCES			<div>الشركة الوطنية لنقل الكهرباء</div> <div>نقل الكهرباء</div> <div>National Grid sa</div>																																																																
			DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>		132kV UGF-SPARE-2 RELAY PANEL-1/2			INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.																																																														
	01	13 49	FACTORY ASBUILT		DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____			S/S 8709-132/13.8KV IN AL-KHARJ CITY			SHT	CONT.																																																														
	00	13 04	FOR APPROVAL		OPRG. DEPT. <u>CTPD</u> ENG. DEPT. <u>AUT-PSAC</u>			RIYADH SAUDI ARABIA			016	051																																																														
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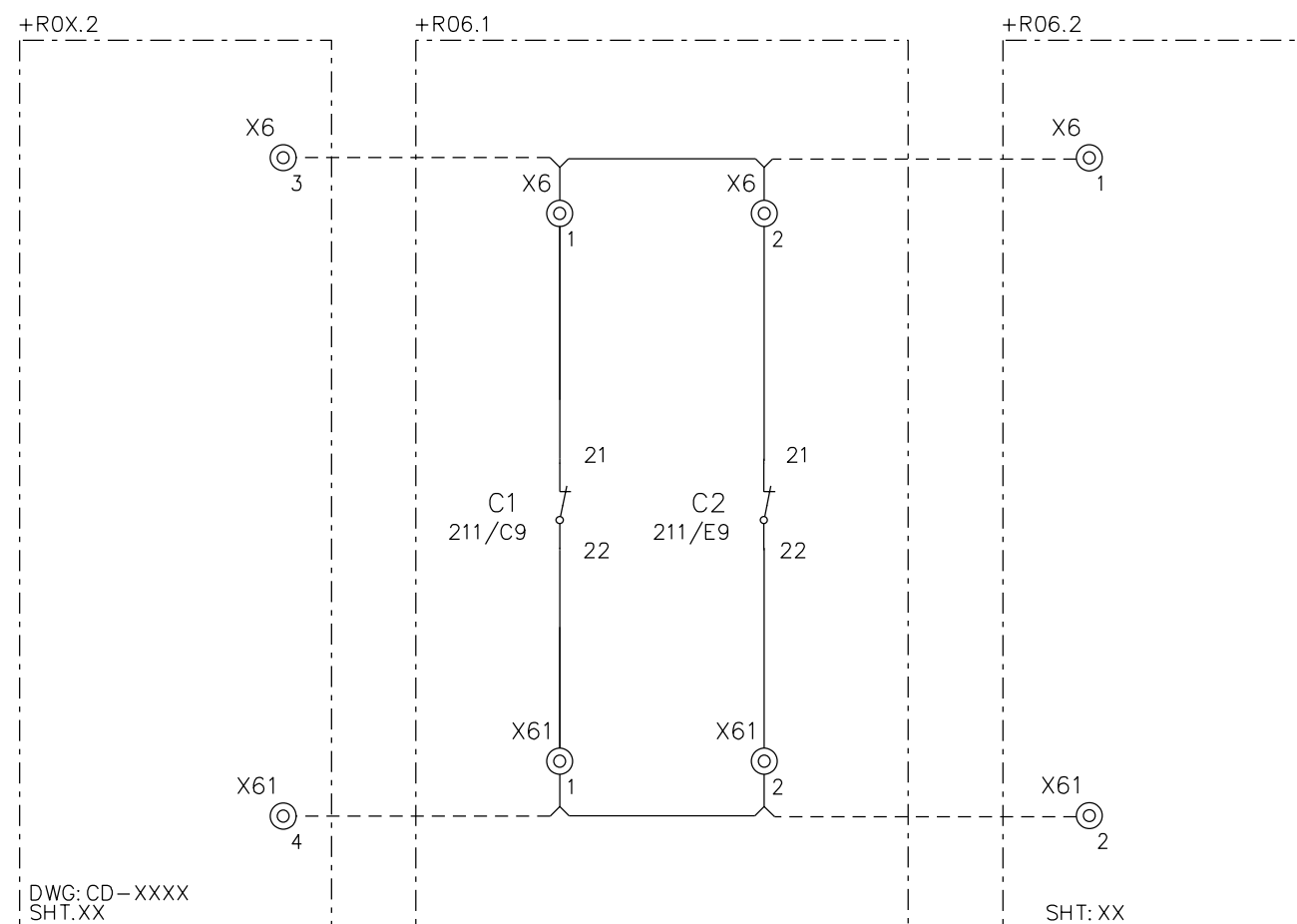




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	01	13 49	FACTORY ASBUILT		DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>		132kV UGF-SPARE-2 RELAY PANEL-1/2		INDEX		PLANT NO.	DRAWING NUMBER		SHEET NO.		REV. NO.
	00	13 04	FOR APPROVAL		DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY							SHT		CONT.
	REV. NO.	DATE	DESCRIPTION		OPRG. DEPT. <u>CTPD</u> ENG. DEPT. <u>AUT-PSAC</u>		RIYADH SAUDI ARABIA		-		C421	CD-322922		052		211
																01



G	AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		AC SUPPLY FOR ILLUMINATION &POWER SOCKET		<div><div></div><div>نقل الكهرباء</div><div>National Grid sa</div></div> <div>الشركة الوطنية لنقل الكهرباء</div>						
							132kV UGF-SPARE-2 RELAY PANEL-1/2								
	01	13 49	FACTORY ASBUILT		DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>		S/S 8709-132/13.8KV IN AL-KHARJ CITY		INDEX	PLANT NO.	DRAWING NUMBER		SHEET NO.		REV. NO.
	00	13 04	FOR APPROVAL		DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____		RIYADH SAUDI ARABIA		-	C421	CD-322922		SHT	CONT.	01
	REV. NO.	DATE	DESCRIPTION		OPRG. DEPT. <u>CTPD</u> ENG. DEPT. <u>AUT-PSAC</u>						211	212			

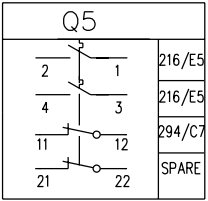
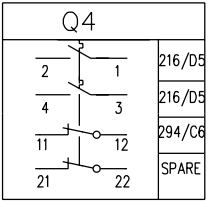
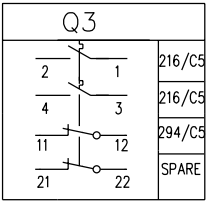
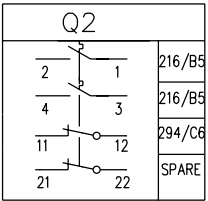
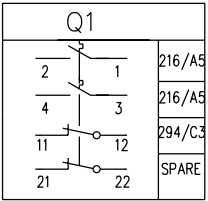
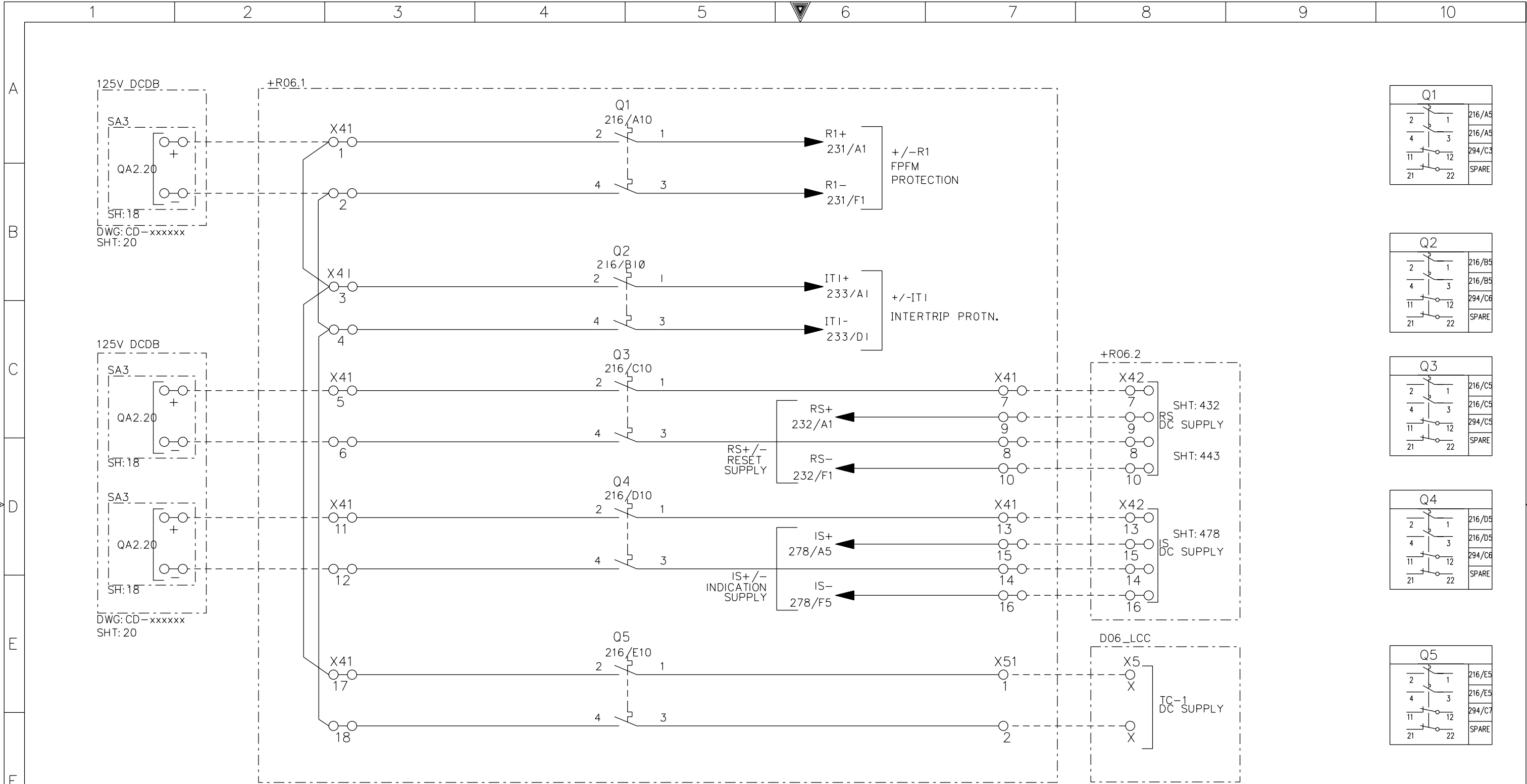



AS-BUILT BY _____ DATE _____	CONTRACT NO. 11131113/00	JOB ORDER NO. S-13656
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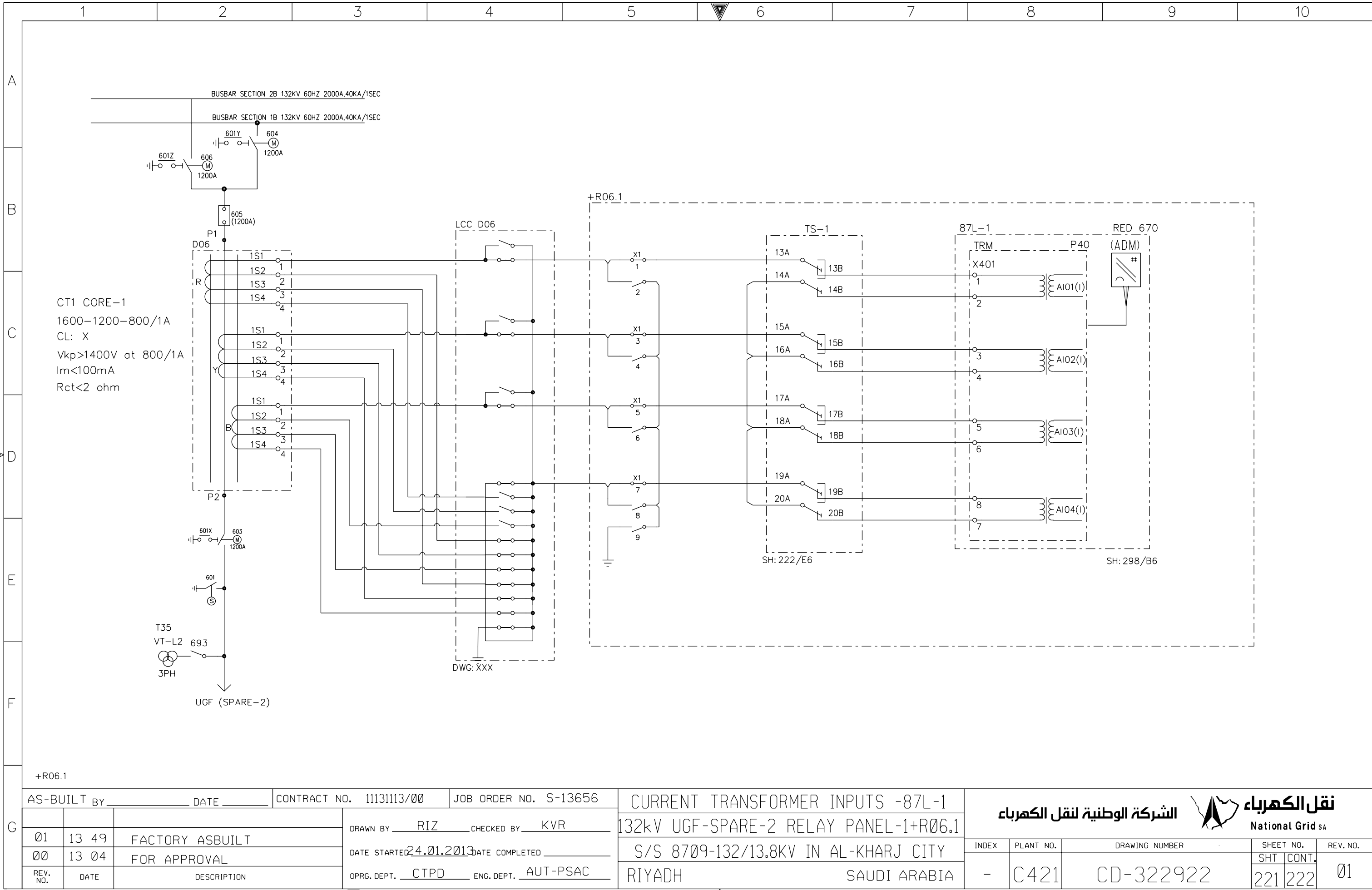
			DRAWN BY <u> RIZ </u> CHECKED BY <u> KVR </u>
01	13 49	FACTORY ASBUILT	
00	13 04	FOR APPROVAL	DATE STARTED <u>24.01.2013</u> DATE COMPLETED <u> </u>
REV. NO.	DATE	DESCRIPTION	OPRG. DEPT. <u> CTPD </u> ENG. DEPT. <u> AUT-PSAC </u>

AC MCB AUX CONTACTS
132kV UGF-SPARE-2 RELAY PANEL-1/2
S/S 8709-132/13.8KV IN AL-KHARJ CIT
RIYADH SAUDI ARABIA

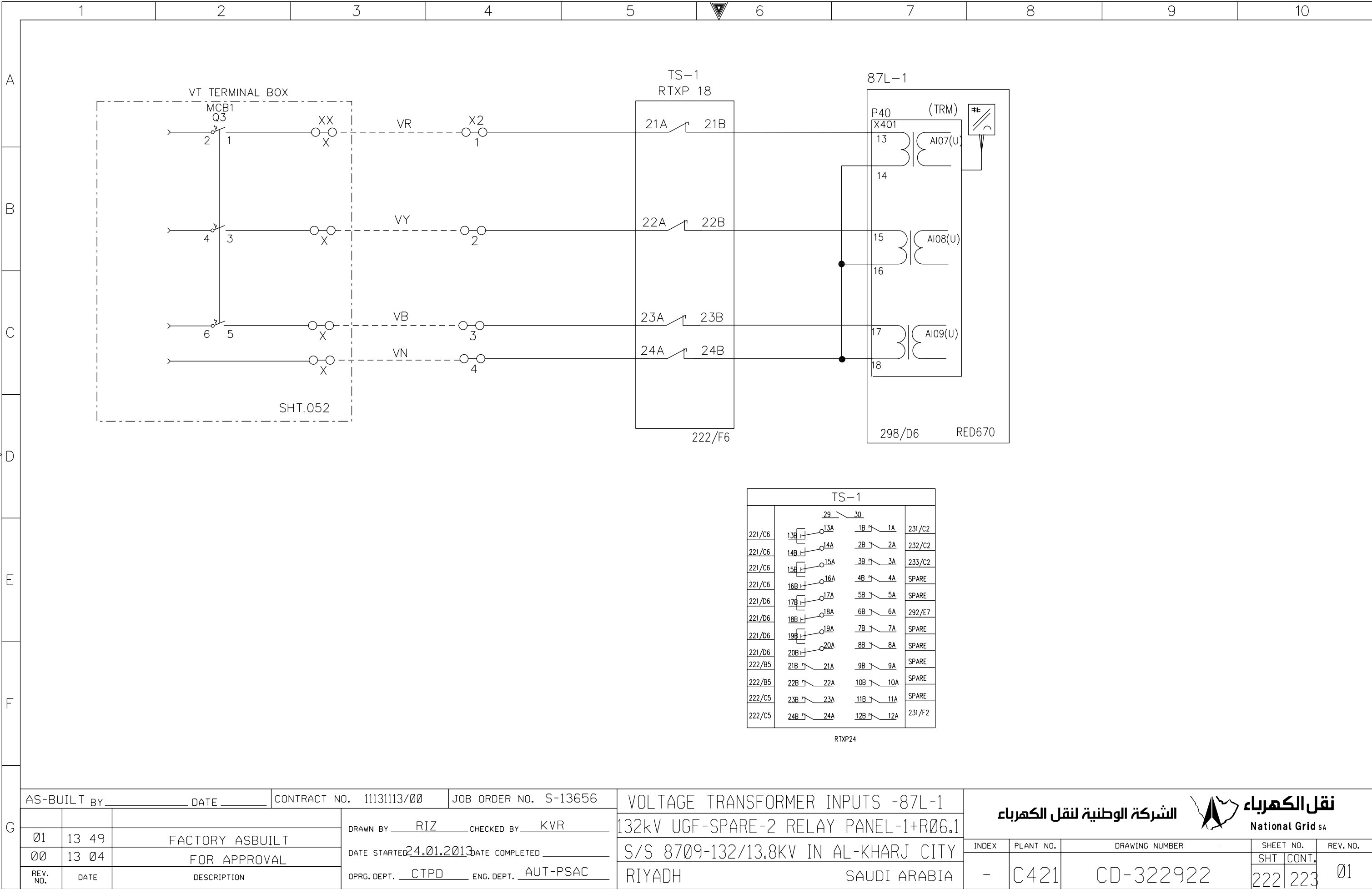
				نقل الكهرباء National Grid SA		
الشركة الوطنية لنقل الكهرباء						
Y	INDEX	PLANT NO.	DRAWING NUMBER		SHEET NO.	REV. NO.
	-	C421	CD-322922		SHT CONT. 212 216	01



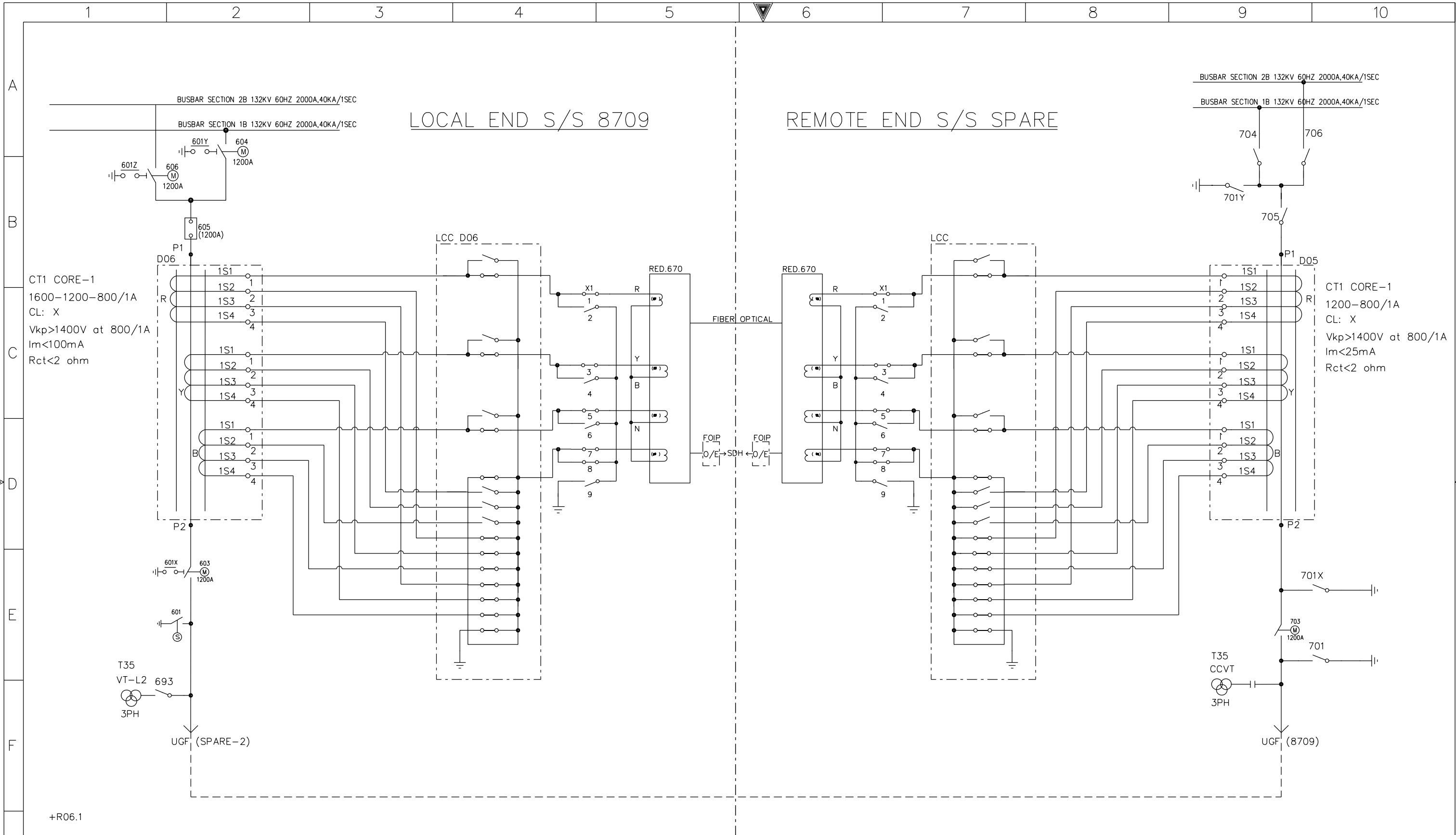
G	AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		DC SUPPLY DISTRIBUTION		<div>الشركة الوطنية لنقل الكهرباء</div> <div>نقل الكهرباء</div> <div>National Grid SA</div>			
				DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>	132kV UGF-SPARE-2 RELAY PANEL-1/2							
	01	13 49	FACTORY ASBUILT	DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY		INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
	00	13 04	FOR APPROVAL	OPRG. DEPT. <u>CTPD</u> ENG. DEPT. <u>AUT-PSAC</u>		RIYADH SAUDI ARABIA		-	C421	CD-322922	SHT 216	CONT. 221



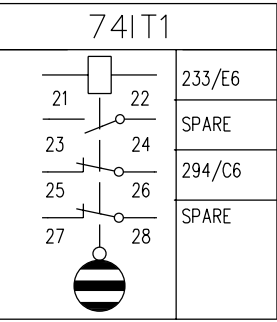
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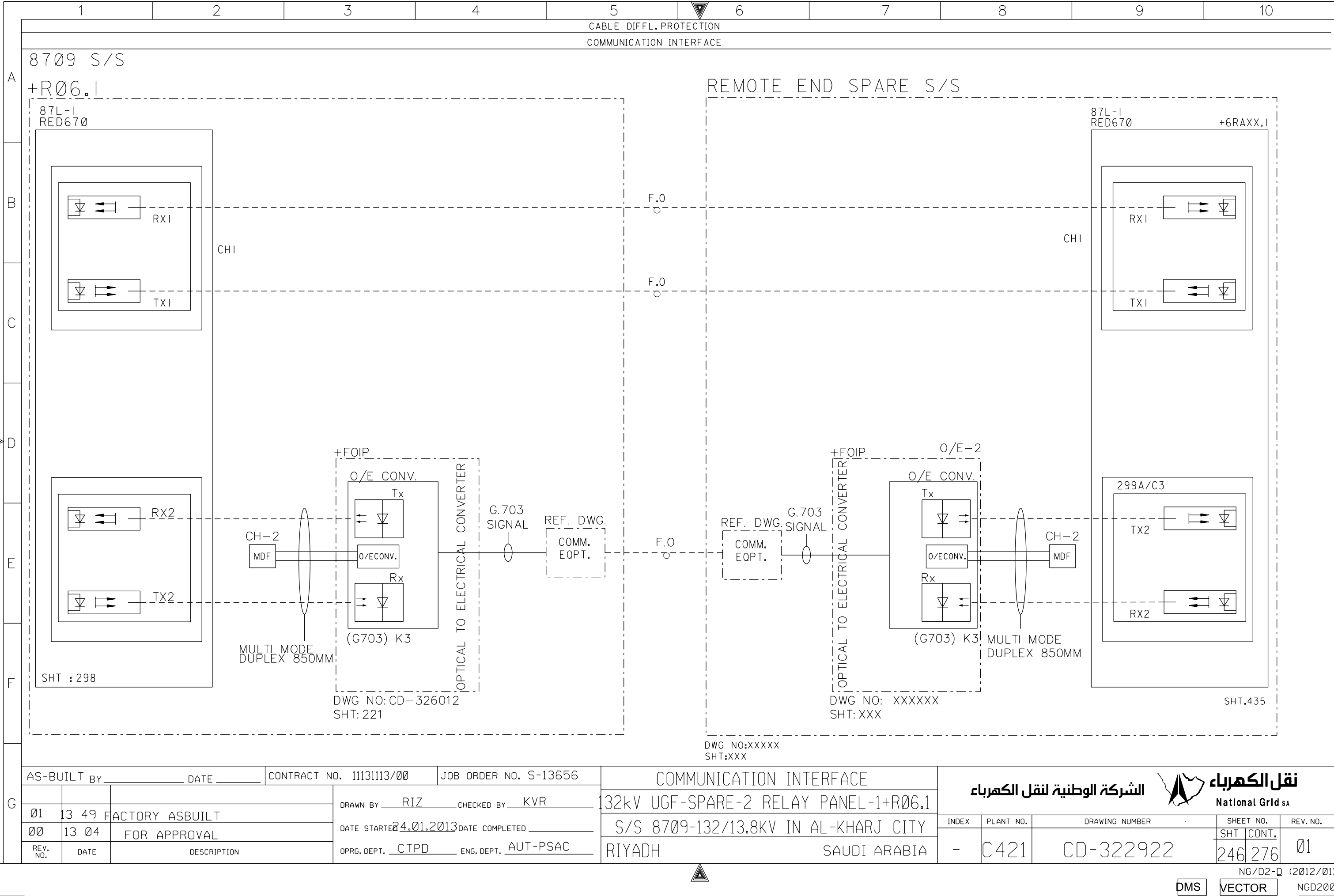


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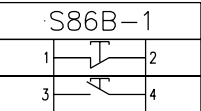
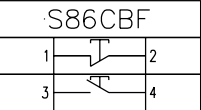
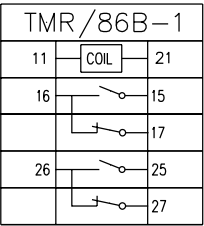
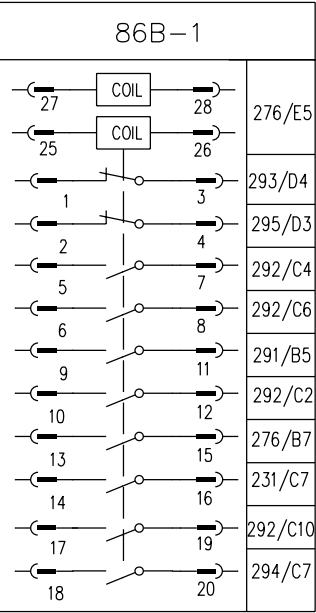
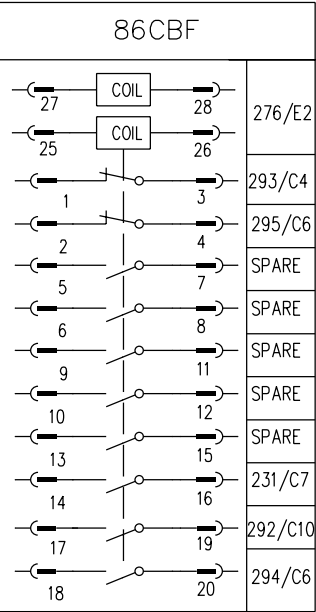
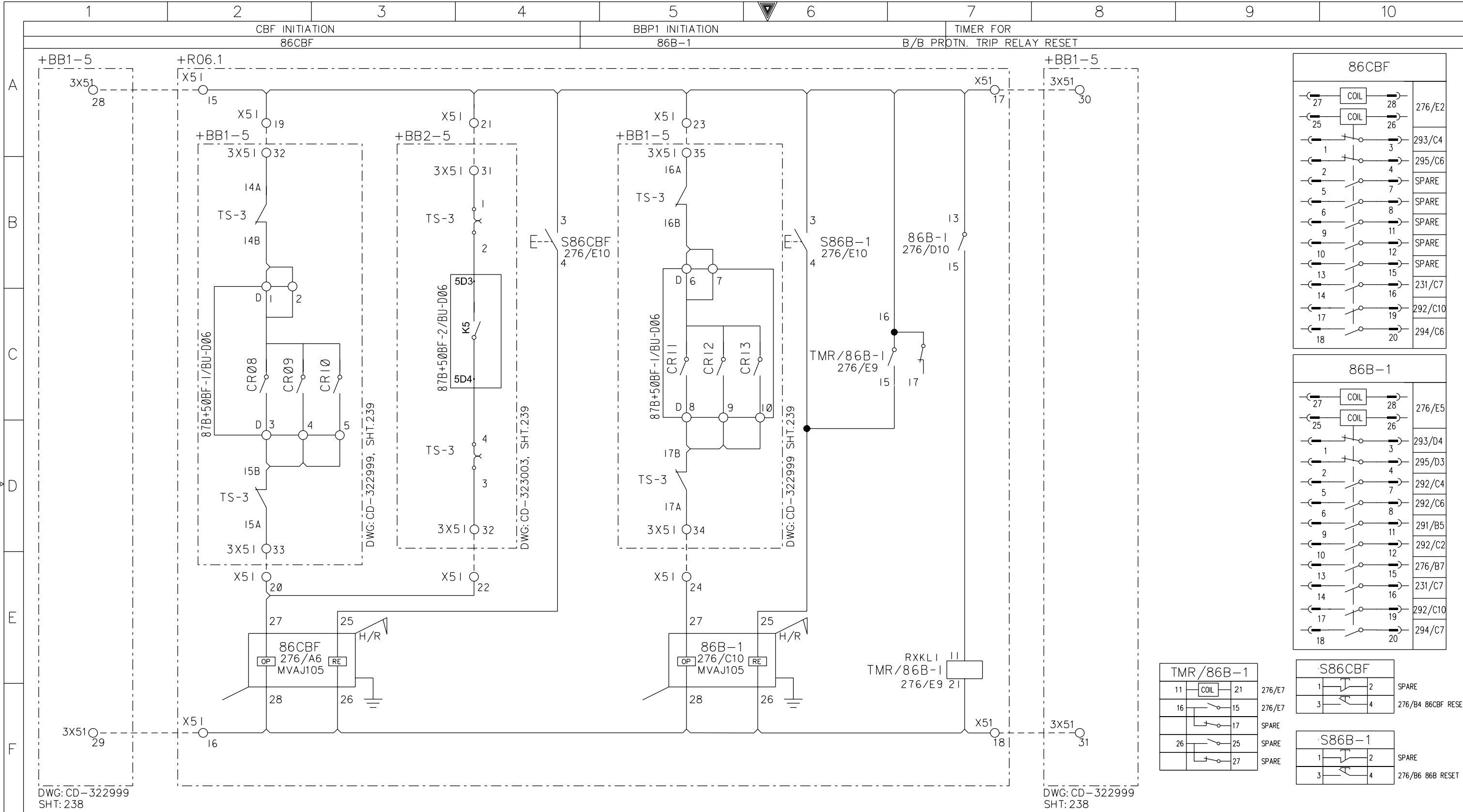


G	AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		COMMUNICATION CIRCUITS		<div>الشركة الوطنية لنقل الكهرباء</div> <div>نقل الكهرباء</div> <div>National Grid SA</div>	
				DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>		132kV UGF-SPARE-2 RELAY PANEL-1+R06.1				
	01	13 49	FACTORY ASBUILT	DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY				
	00	13 04	FOR APPROVAL	OPRG. DEPT. <u>CTPD</u> ENG. DEPT. <u>AUT-PSAC</u>		RIYADH SAUDI ARABIA				
	REV. NO.	DATE	DESCRIPTION			INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	
					-	C421	CD-322922	SHT	CONT.	
								223	231	01



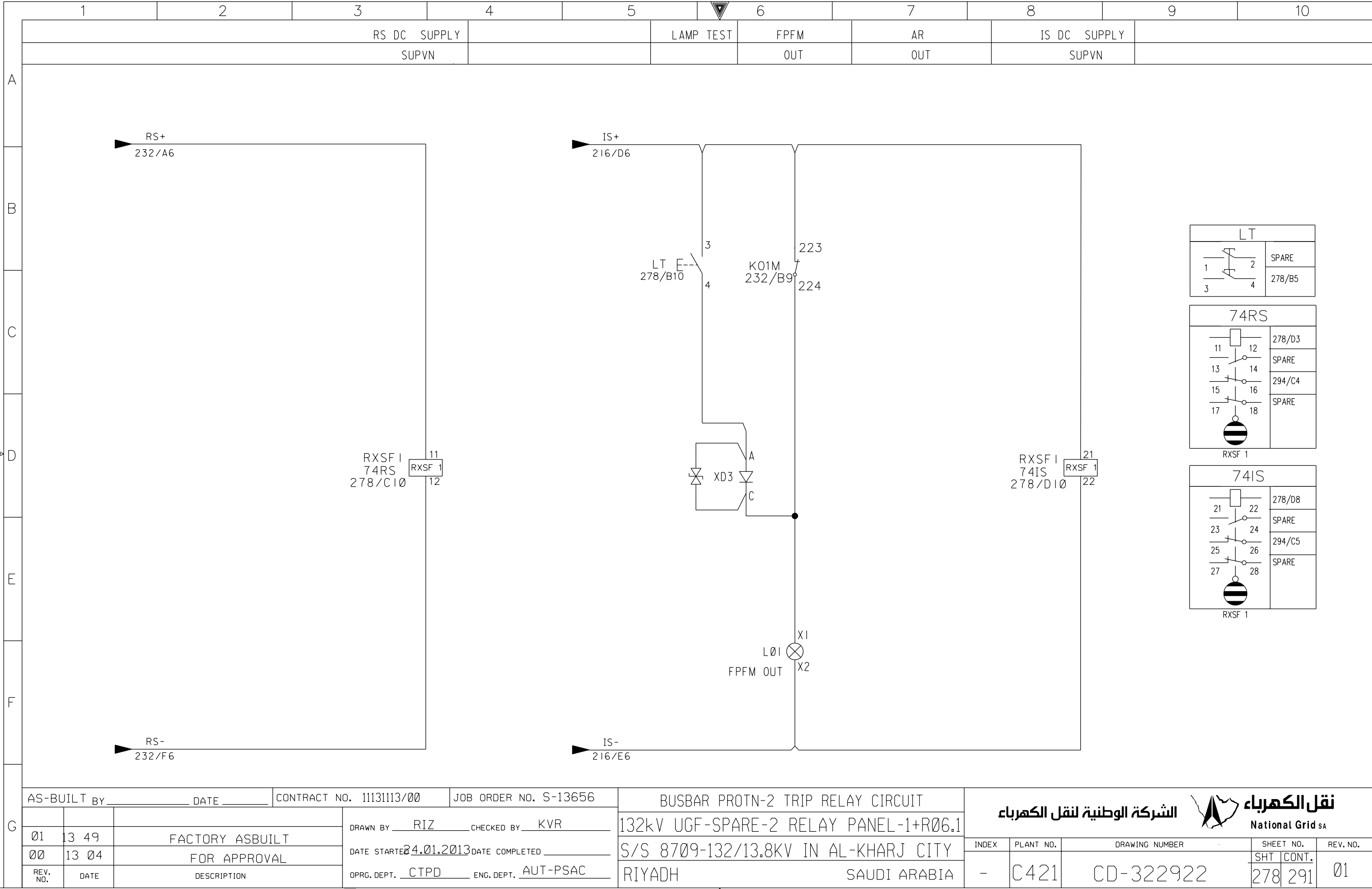



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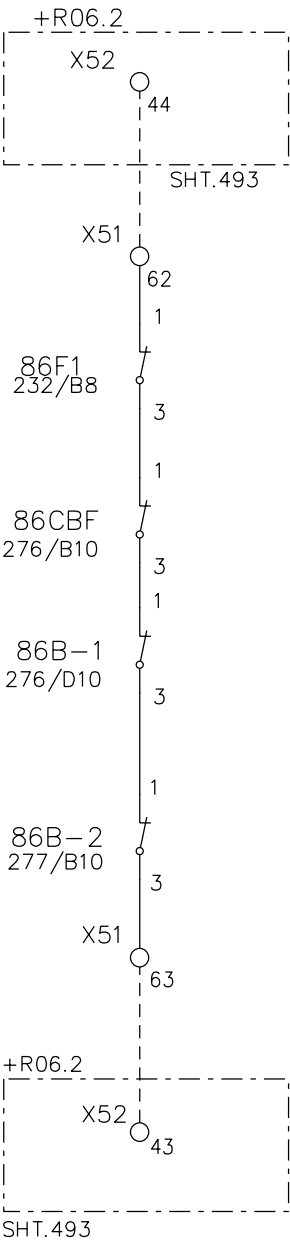
AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		CBF-1/2 & BUSBAR PROTN-1 TRIP RELAY CIRCUIT	
01 13 49 FACTORY ASBUILT			DRAWN BY RIZ CHECKED BY KVR		DATE STARTED 24.01.2013 DATE COMPLETED _____		132kV UGF-SPARE-2 RELAY PANEL-1+R06.1	
00 13 04 FOR APPROVAL			OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC				S/S 8709-132/13.8KV IN AL-KHARJ CITY	
REV. NO. DATE DESCRIPTION							RIYADH SAUDI ARABIA	

الشركة الوطنية لنقل الكهرباء					نقل الكهرباء				
					National Grid sa				
INDEX	PLANT NO.	DRAWING NUMBER			SHEET NO.		REV. NO.		
-	C421	CD-322922			SHT	CONT.	01		
					276	277			



G	AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		BUSBAR PROTN-2 TRIP RELAY CIRCUIT		<div>الشركة الوطنية لنقل الكهرباء</div> <div>نقل الكهرباء</div> <div>National Grid SA</div>							
	01	13 49	FACTORY ASBUILT		DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>		132kV UGF-SPARE-2 RELAY PANEL-1+R06.1		INDEX		PLANT NO.	DRAWING NUMBER		SHEET NO.		REV. NO.
	00	13 04	FOR APPROVAL		DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY							SHT		CONT.
	REV. NO.	DATE	DESCRIPTION		OPRG. DEPT. <u>CTPD</u> ENG. DEPT. <u>AUT-PSAC</u>		RIYADH SAUDI ARABIA		-		C421	CD-322922		278		291
																01

	1	2	3	4	5	6	7	8	9	10					
A	CLOSE BLOCKING														
	PROTECTION														
B															
C															
D															
E															
F															
G	AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		CLOSE BLOCK CIRCUIT			<div>الشركة الوطنية لنقل الكهرباء</div> <div> نقل الكهرباء National Grid sa</div>				
	01	13 49	FACTORY ASBUILT	DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>		132kV UGF-SPARE-2 RELAY PANEL-1+R06.1			INDEX	PLANT NO.		DRAWING NUMBER	SHEET NO.	REV. NO.	
	00	13 04	FOR APPROVAL	DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY							SHT	CONT.	
	REV. NO.	DATE	DESCRIPTION	OPRG. DEPT. <u>CTPD</u> ENG. DEPT. <u>AUT-PSAC</u>		RIYADH SAUDI ARABIA			-	C421		CD-322922	293	294	01



+R06.1

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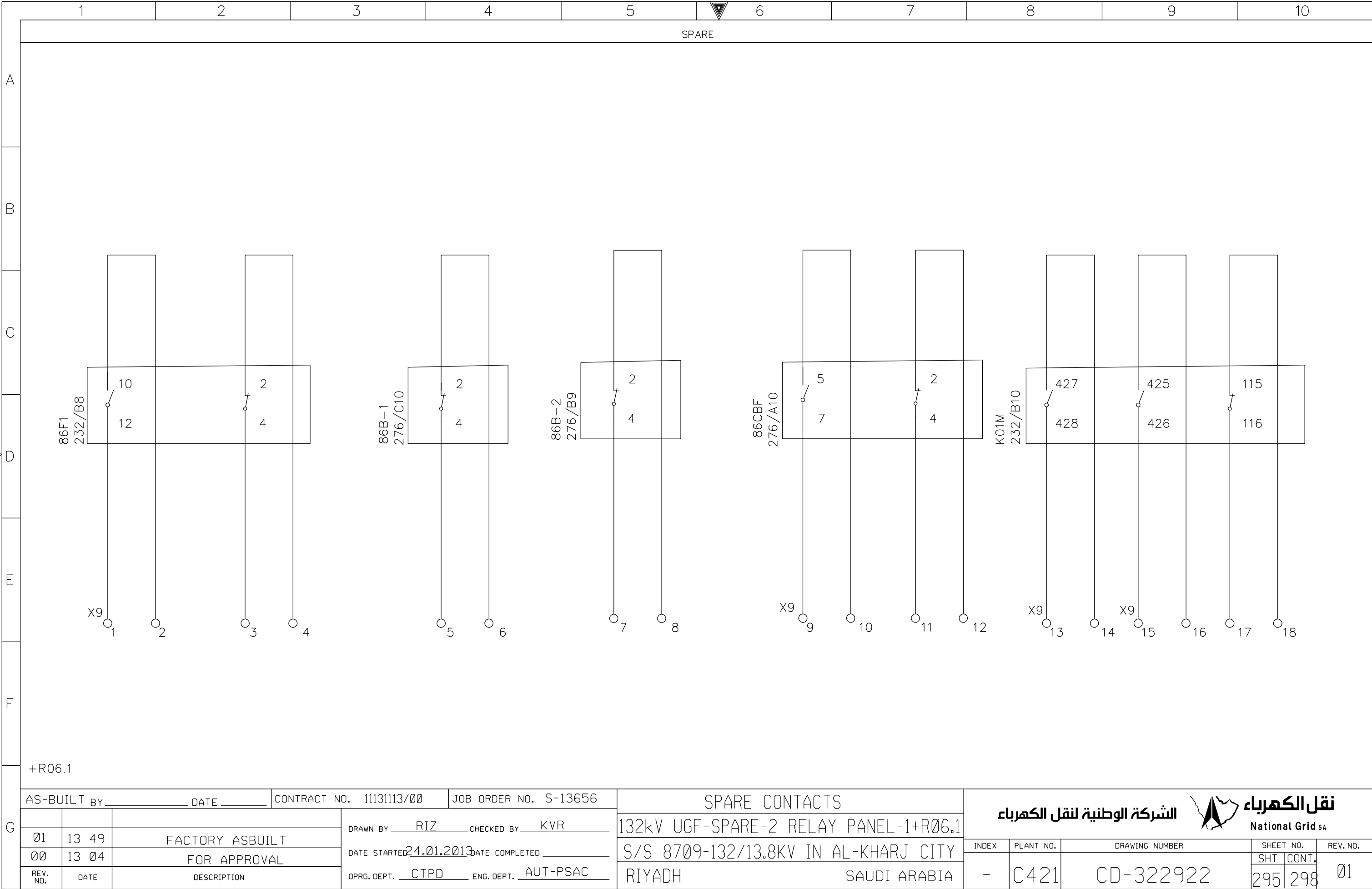


DMS

VECTOR

NGD200

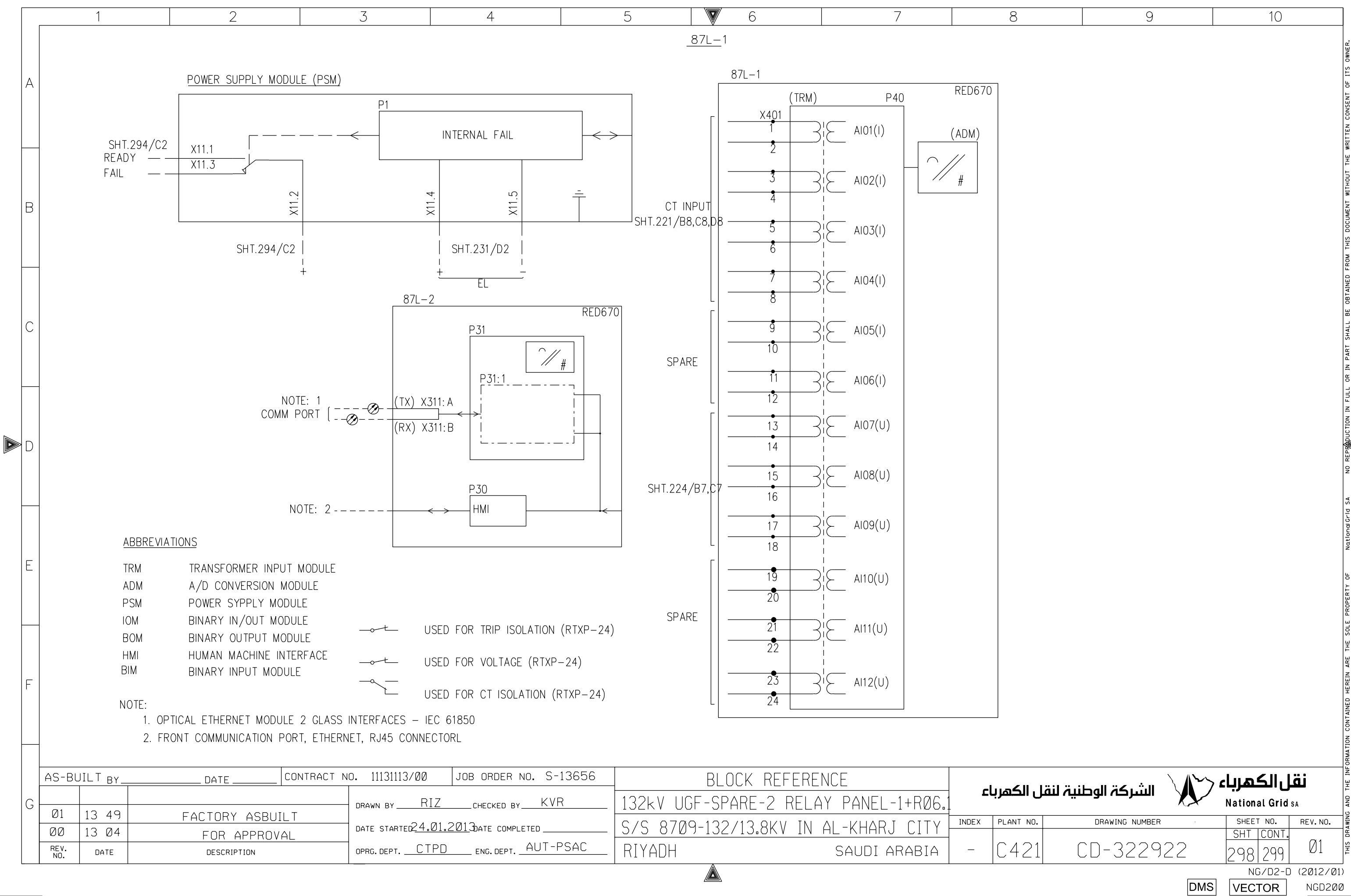
NG/D2-D (2012/01)



SPARE



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1

2

3

4

5

6

7

8

9

10

A

B

C

D

E

F

G

87L-1

BINARY INPUT CARD

BIM P3
RED670

LOCATION=P3

PLANT ADAPTED
CONFIGURATION

SHT.231/D3 { + -- X31
 1 BI.01 // CB ON

SHT.231/D3 { + -- 2
 3 BI.02 // CB OFF

SHT.231/D4 { + -- 4
 5 BI.03 // 604 ON

SHT.231/D4 { + -- 6
 7 BI.04 // 606 ON

SHT.231/D5 { + -- 8
 9 BI.05 // VT MCB TRIP

SHT.231/D5 { + -- 10
 11 BI.06 // CB READY

SHT.231/D6 { + -- 12
 13 BI.07 // 86F1 OPTD.

SHT.231/D7 { + -- 14
 15 BI.08 // 85R1 OPTD.

16

SHT.231/D8,D9,D10 { + -- X32
 1 BI.09 // 86CBF OPTD.

2 BI.10 // 86B-1 OPTD.

3 BI.11 // 86B-2 OPTD.

4 BI.12 // 86F2 OPTD.

5 BI.13 // 86BU OPTD.

6 BI.14 // 85R2 OPTD.

7 BI.15 // FPFM OUT

8 BI.16 // SPARE

9 BI.16 // SPARE

10 BI.16 // SPARE

11 BI.16 // SPARE

12 BI.16 // SPARE

13 BI.16 // SPARE

14 BI.16 // SPARE

15 BI.16 // SPARE

16 BI.16 // SPARE

SHT.291/C8,C9 { + -- X51
 1 BI.01 // TSR

SHT.291/C8,C9 { + -- 2
 3 BI.02 // TSR

SHT.291/C8,C9 { + -- 4
 5 BI.03 // SPARE

SHT.291/C8,C9 { + -- 6
 7 BI.04 // SPARE

SHT.291/C8,C9 { + -- 8
 9 BI.05 // SPARE

SHT.291/C8,C9 { + -- 10
 11 BI.06 // SPARE

SHT.291/C8,C9 { + -- 12
 13 BI.07 // SPARE

SHT.291/C8,C9 { + -- 14
 15 BI.08 // SPARE

SHT.291/C8,C9 { + -- 16

SPARE { + -- X52
 1 BI.09 // SPARE

SPARE { + -- 2
 3 BI.10 // SPARE

SPARE { + -- 4
 5 BI.11 // SPARE

SPARE { + -- 6
 7 BI.12 // SPARE

SPARE { + -- 8
 9 BI.13 // SPARE

SPARE { + -- 10
 11 BI.14 // SPARE

SPARE { + -- 12
 13 BI.15 // SPARE

SPARE { + -- 14
 15 BI.16 // SPARE

SPARE { + -- 16

AS-BUILT BY _____ DATE _____

CONTRACT NO. 11131113/00

JOB ORDER NO. S-13656

BLOCK REFERENCE

01

13 49

FACTORY ASBUILT

00

13 04

FOR APPROVAL

REV. NO.

DATE

DESCRIPTION

DRAWN BY RIZ

CHECKED BY KVR

DATE STARTED 24.01.2013

DATE COMPLETED _____

OPRG. DEPT. CTPD

ENG. DEPT. AUT-PSAC

132kV UGF-SPARE-2 RELAY PANEL-1+R06.1

S/S 8709-132/13.8KV IN AL-KHARJ CITY

RIYADH

SAUDI ARABIA

الشركة الوطنية لنقل الكهرباء

نقل الكهرباء

National Grid sa

INDEX

PLANT NO.

DRAWING NUMBER

SHEET NO.

REV. NO.

-

C421

CD-322922

299

300

01

NG/D2-D (2012/01)

DMS

VECTOR

NGD200

A

B

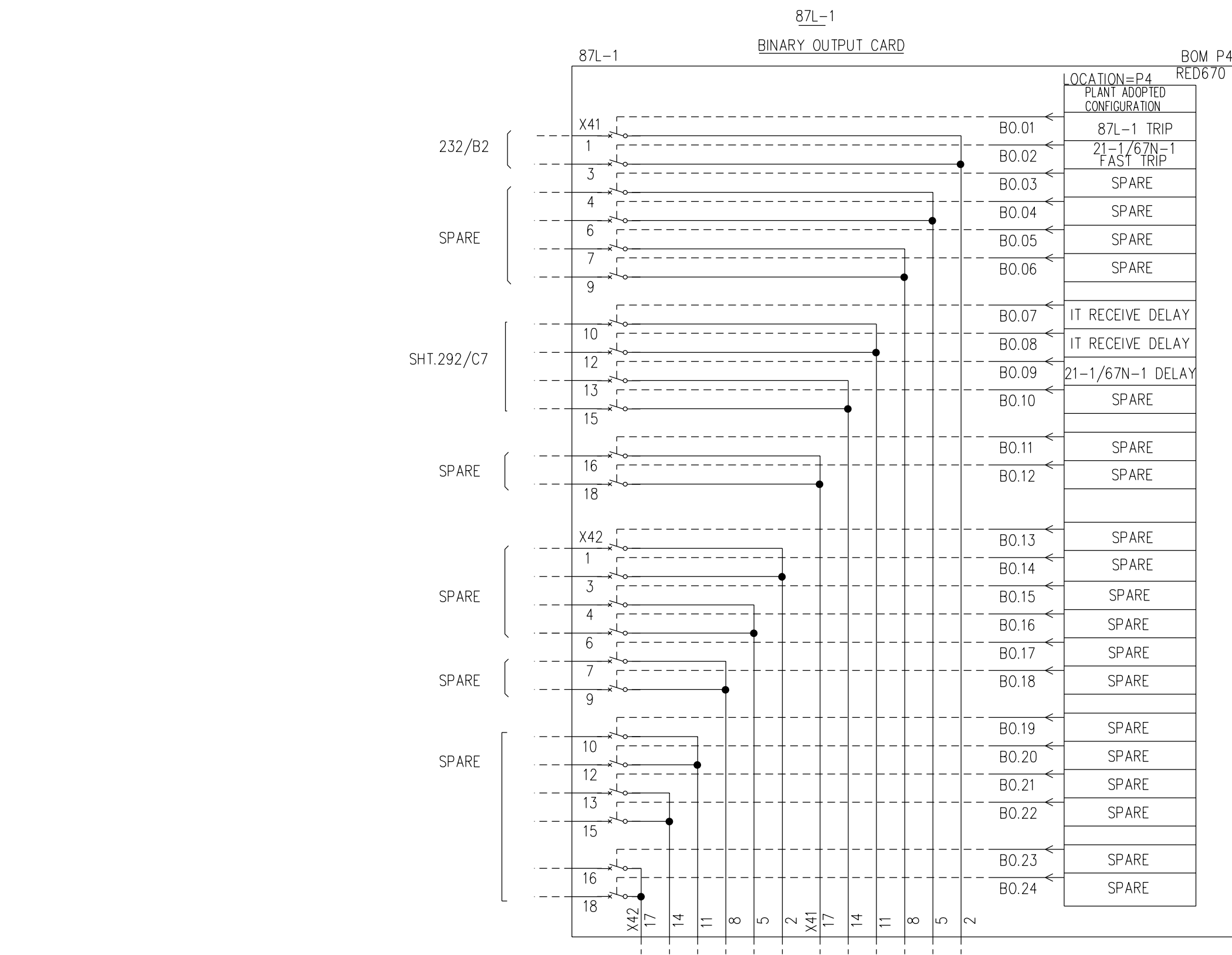
C


D


E

F

G



AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		BLOCK REFERENCE			<div>الشركة الوطنية لنقل الكهرباء</div> <div> نقل الكهرباء</div> <div>National Grid SA</div>				
01	13 49	FACTORY ASBUILT FOR APPROVAL	DRAWN BY _____ RIZ _____ CHECKED BY _____ KVR			132kV UGF-SPARE-2 RELAY PANEL-1+R06.1			INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.		REV. NO.
00	13 04		DATE STARTED 24.01.2013 DATE COMPLETED _____			S/S 8709-132/13.8KV IN AL-KHARJ CITY						SHT	CONT.	
REV. NO.	DATE	DESCRIPTION	OPRG. DEPT. _____ CTPD _____ ENG. DEPT. _____ AUT-PSAC			RIYADH SAUDI ARABIA						-	C421	

	1	2	3	4	5	6	7	8	9	10	
A											
B											
C											
D											
E											
F											
G	AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		TERMINAL BLOCKS PANEL		<div>الشركة الوطنية لنقل الكهرباء</div> <div> نقل الكهرباء National Grid sa</div>		
			DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>		132kV UGF-SPARE-2 RELAY PANEL-1+R06.1		INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
	01	13 49	FACTORY ASBUILT		S/S 8709-132/13.8KV IN AL-KHARJ CITY					SHT	CONT.
	00	13 04	FOR APPROVAL		RIYADH SAUDI ARABIA		-	C421	CD-322922	301	411
	REV. NO.	DATE	DESCRIPTION		OPRG. DEPT. <u>CTPD</u> ENG. DEPT. <u>AUT-PSAC</u>						01

REFERENCE	X1 CT CKT.
221/C5	1
221/C5	2
221/C5	3
221/C5	4
221/D5	5
221/D5	6
221/D5	7
221/D5	8
221/D5	9
SPARE	10

REFERENCE	X2 VT CKT.
222/B4	1
222/B4	2
222/C4	3
222/C4	4
SPARE	5

REFERENCE	X3 AC CKT.
211/A3	1
211/C3	2
211/A3	3
211/C3	4
211/B3	5
211/C3	6
211/B3	7
211/C3	8
SPARE	9
SPARE	10

REFERENCE	XTJ T.JACK
211/D3	1
211/D3	2
211/D3	3
211/D3	4
SPARE	5

REFERENCE	XSH SPACE HEATER
211/E6	1
211/F6	2
SPARE	3

REFERENCE	X6 ALM. CKT.
212/C5	1
212/C5	2
294//E1	3

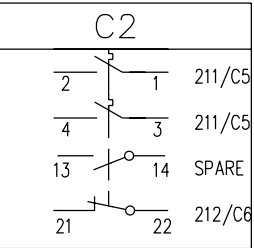
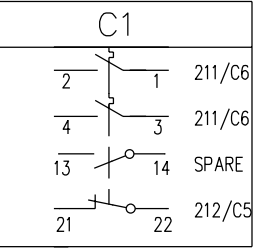
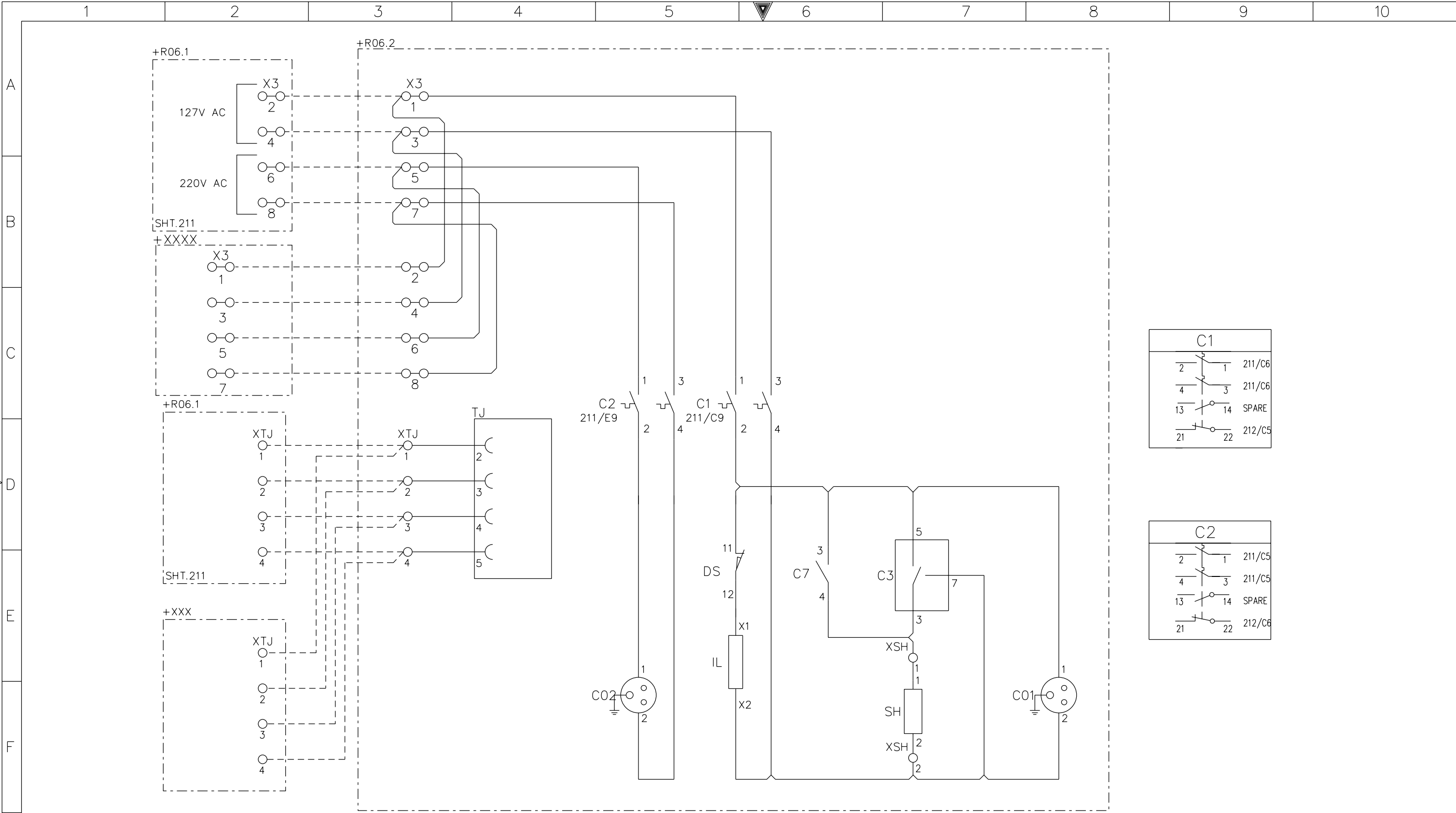
REFERENCE	X61 ALM. CKT.
212/E5	1
212/E5	2
294/E1	3
294/E2	4
294/E4	5
294/E6	6
294/E7	7
294/E7	8
294/E7	9
SPARE	10
SPARE	11
SPARE	12
SPARE	13
SPARE	14
SPARE	15


REFERENCE	X41 DC CKTS.
216/B3	1
216/B3	2
216/B3	3
216/C3	4
216/C3	5
216/C3	6
216/C7	7
216/C7	8
216/C7	9
216/C7	10
216/D3	11
216/D3	12
216/D7	13
216/D7	14
216/D7	15
216/D7	16
216/E3	17
216/E3	18
SPARE	19
SPARE	20
231/B3	21
231/B4	22
231/B4	23
231/B5	24
231/B5	25
231/B6	26
231/B8	27
231/B9	28
SPARE	29
SPARE	30
SPARE	31

REFERENCE	X51 CON & PROTN CKTS
216/E7	1
216/E7	2
231/D3	3
231/D4	4
231/D4	5
231/D5	6
231/D6	7
231/D6	8
231/D6	9
231/D7	10
231/D8	11
SPARE	12
SPARE	13
SPARE	14
276/A2	15
276/F2	16
276/A7	17
276/F7	18
276/A2	19
276/E2	20
276/A4	21
276/E4	22
276/A5	23
276/E5	24
277/A4	25
277/F4	26
277/A7	27
277/F7	28
277/A5	29
277/F5	30
291/A4	31
291/C4	32
291/E4	33
291/A6	34
291/C6	35
291/A7	36
291/C7	37
291/A8	38
291/B8	39
291/A10	40
291/B10	41
292/B1	42
292/F1	43
292/B2	44
292/F2	45
292/B3	46
292/F3	47
292/B4	48
292/B5	49
292/F5	50

REFERENCE	X51 CON & PROTN CKTS
292/B6	51
292/B7	52
292/F7	53
292/B8	54
292/B9	55
292/F9	56
292/B10	57
292/F10	58
293/B4	59
293/E4	60
SPARE	61
SPARE	62
SPARE	63
SPARE	64
SPARE	65

REFERENCE	X9 SPARE
295/E1	1
295/E1	2
295/E2	3
295/E2	4
295/E4	5
295/E4	6
295/E5	7
295/E5	8
295/E6	9
295/E6	10
295/E7	11
296/E7	12
295/E8	13
295/E8	14
295/E9	15
295/E9	16
SPARE	17
SPARE	18
SPARE	19
SPARE	20



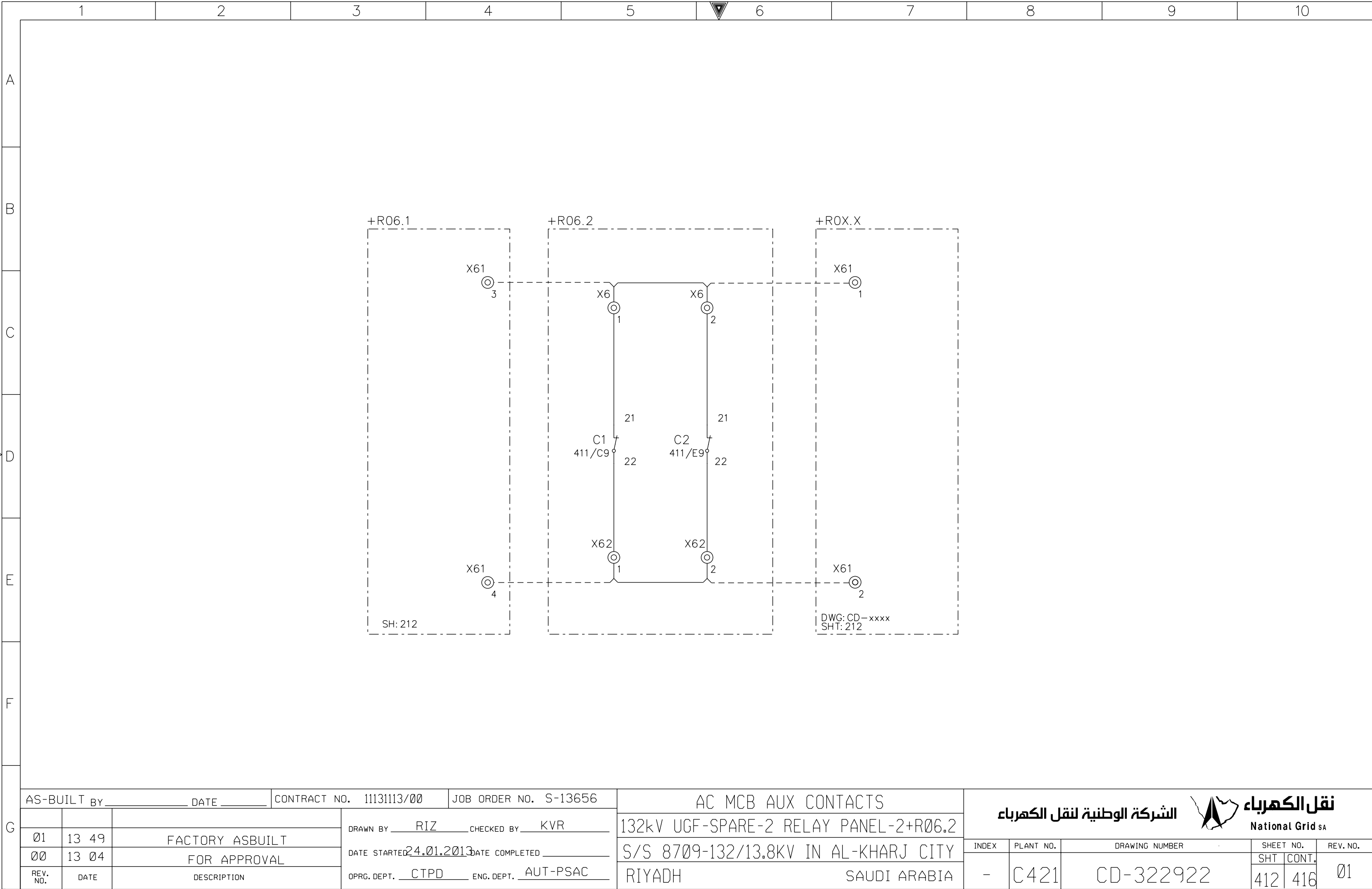
G	AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		AC SUPPLY FOR ILLUMINATION &POWER SOCKET		<div><div></div><div>نقل الكهرباء</div><div>National Grid sa</div></div> <div>الشركة الوطنية لنقل الكهرباء</div>					
							132kV UGF-SPARE-2 RELAY PANEL-1/2							
	01	13 49	FACTORY ASBUILT		DRAWN BY RIZ CHECKED BY KVR		S/S 8709-132/13.8KV IN AL-KHARJ CITY							
	00	13 04	FOR APPROVAL		DATE STARTED 24.01.2013 DATE COMPLETED _____		RIYADH SAUDI ARABIA							
	REV. NO.	DATE	DESCRIPTION		OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC				INDEX	PLANT NO.	DRAWING NUMBER		SHEET NO.	
								-	C421	CD-322922		SHT 411	CONT. 412	01

NG/D2-D (2012/01)

DMS

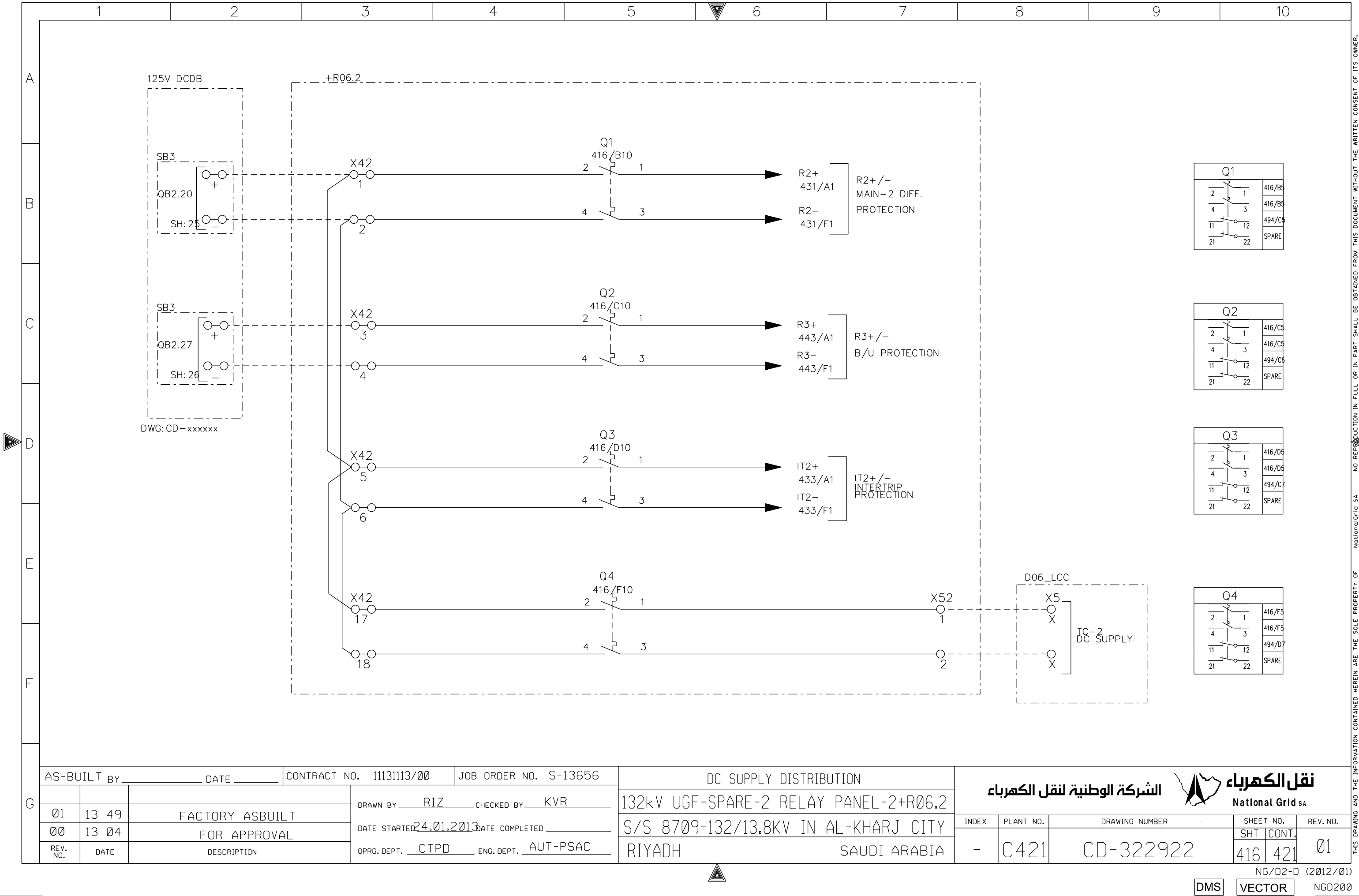
VECTOR

NGD200



AS-BUILT BY _____ DATE _____			CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		AC MCB AUX CONTACTS		<div>الشركة الوطنية لنقل الكهرباء</div> <div>National Grid sa</div>		
01	13 49	FACTORY ASBUILT	DRAWN BY RIZ			CHECKED BY KVR			132kV UGF-SPARE-2 RELAY PANEL-2+R06.2		
00	13 04	FOR APPROVAL	DATE STARTED 24.01.2013			DATE COMPLETED			S/S 8709-132/13.8KV IN AL-KHARJ CITY		
REV. NO.	DATE	DESCRIPTION	OPRG. DEPT. CTPD			ENG. DEPT. AUT-PSAC			RIYADH SAUDI ARABIA		

INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.		REV. NO.
-	C421	CD-322922	SHT	CONT.	01
			412	416	



AS-BUILT BY _____ DATE _____

CONTRACT NO. 11131113/00

JOB ORDER NO. S-13656

01

13 49

FACTORY ASBUILT

00

13 04

FOR APPROVAL

REV. NO.

DATE

DESCRIPTION

DRAWN BY RIZ

CHECKED BY KVR

DATE STARTED 24.01.2013

DATE COMPLETED _____

OPRG. DEPT. CTPD

ENG. DEPT. AUT-PSAC

DC SUPPLY DISTRIBUTION

132kV UGF-SPARE-2 RELAY PANEL-2+R06.2

S/S 8709-132/13.8KV IN AL-KHARJ CITY

RIYADH SAUDI ARABIA

الشركة الوطنية لنقل الكهرباء

نقل الكهرباء

National Grid sa

INDEX

PLANT NO.

DRAWING NUMBER

SHEET NO.

REV. NO.

-

C421

CD-322922

416

421

01

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NG/D2-D (2012/01)

DMS

VECTOR

NGD200

A

B

C

D

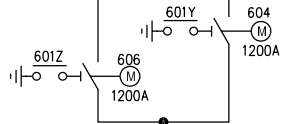
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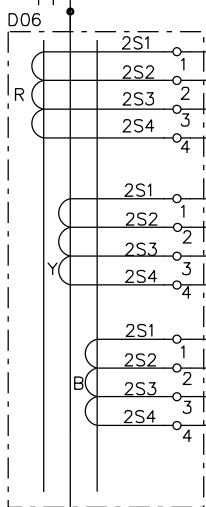
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BUSBAR SECTION 2B 132KV 60HZ 2000A,40KA/1SEC

BUSBAR SECTION 1B 132KV 60HZ 2000A,40KA/1SEC



605
(1200A)



CT1 CORE-21
1600-1200-800/1A
CL: X
Vkp>1400V at 800/1A
Im<100mA
Rct<2 ohm

P2

601X 603
1200A



T35

VT-L2 693

3PH

UGF (SPARE-2)

LCC D06

DWG: XXX

+R06.2

TS-1

21 22

23 24

25 26

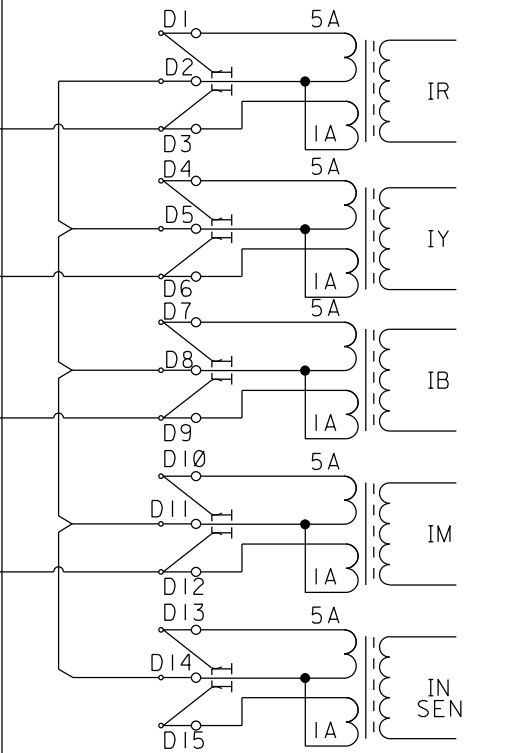
27 28

SH: 422/F6

GND

87L-2

P546



21/67N/50/50N
51/51N/5BF/79/25A

SH: 498/B3

+R06.2

AS-BUILT BY _____ DATE _____ CONTRACT NO. 11131113/00 JOB ORDER NO. S-13656

01	13 49	FACTORY ASBUILT
00	13 04	FOR APPROVAL
REV. NO.	DATE	DESCRIPTION

DRAWN BY RIZ CHECKED BY KVR
DATE STARTED 24.01.2013 DATE COMPLETED _____
OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC

CURRENT TRANSFORMER INPUTS -87L-2
132kv UGF-SPARE-2 RELAY PANEL-2+R06.2
S/S 8709-132/13.8KV IN AL-KHARJ CITY
RIYADH SAUDI ARABIA

الشركة الوطنية لنقل الكهرباء National Grid sa				
INDEX	PLANT NO.	DRAWING NUMBER	SHEET NO.	REV. NO.
-	C421	CD-322922	SHT 421	CONT. 422
				01

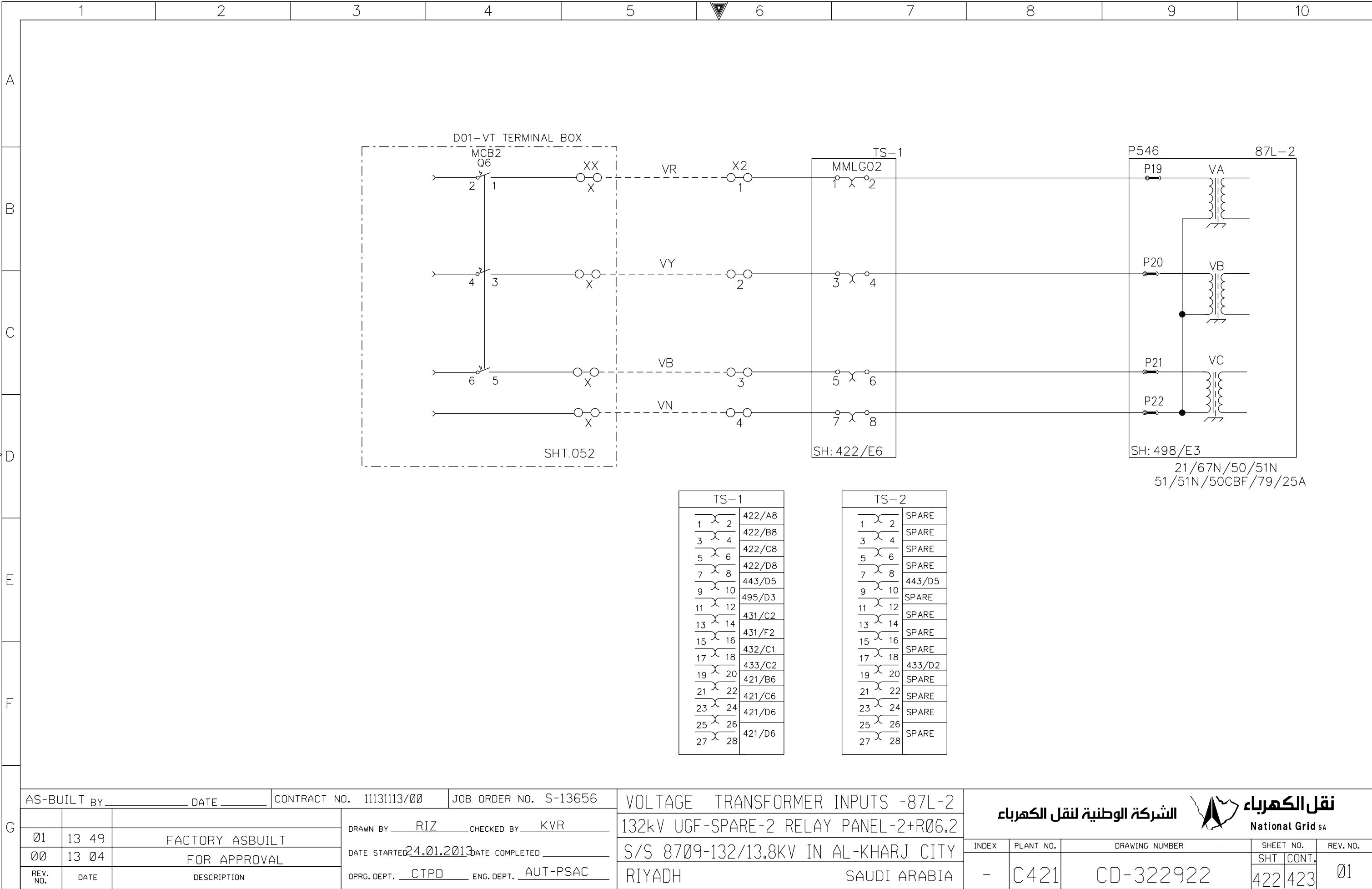
NG/D2-D (2012/01)

DMS

VECTOR

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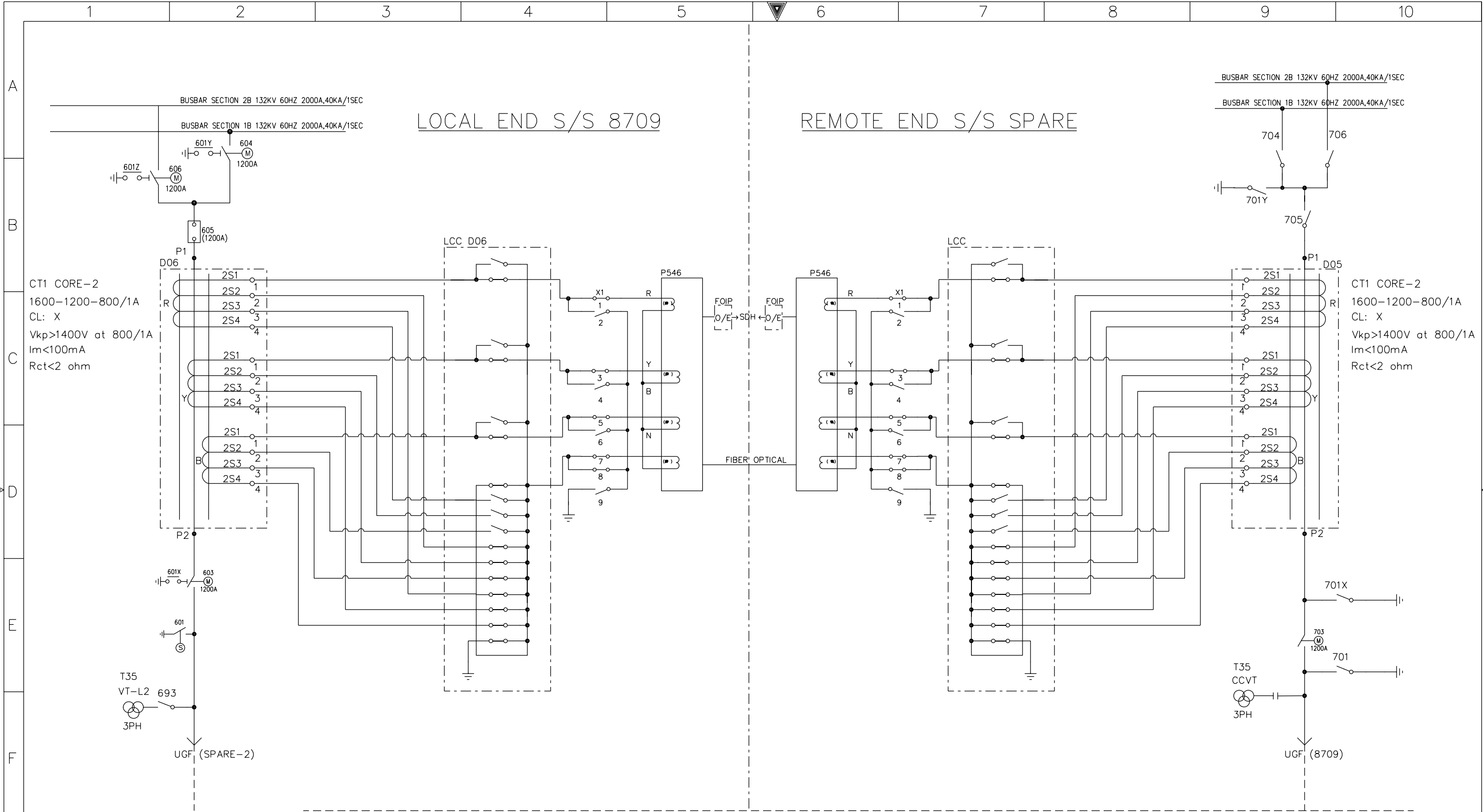
NG/D2-D (2012/01)

DMS

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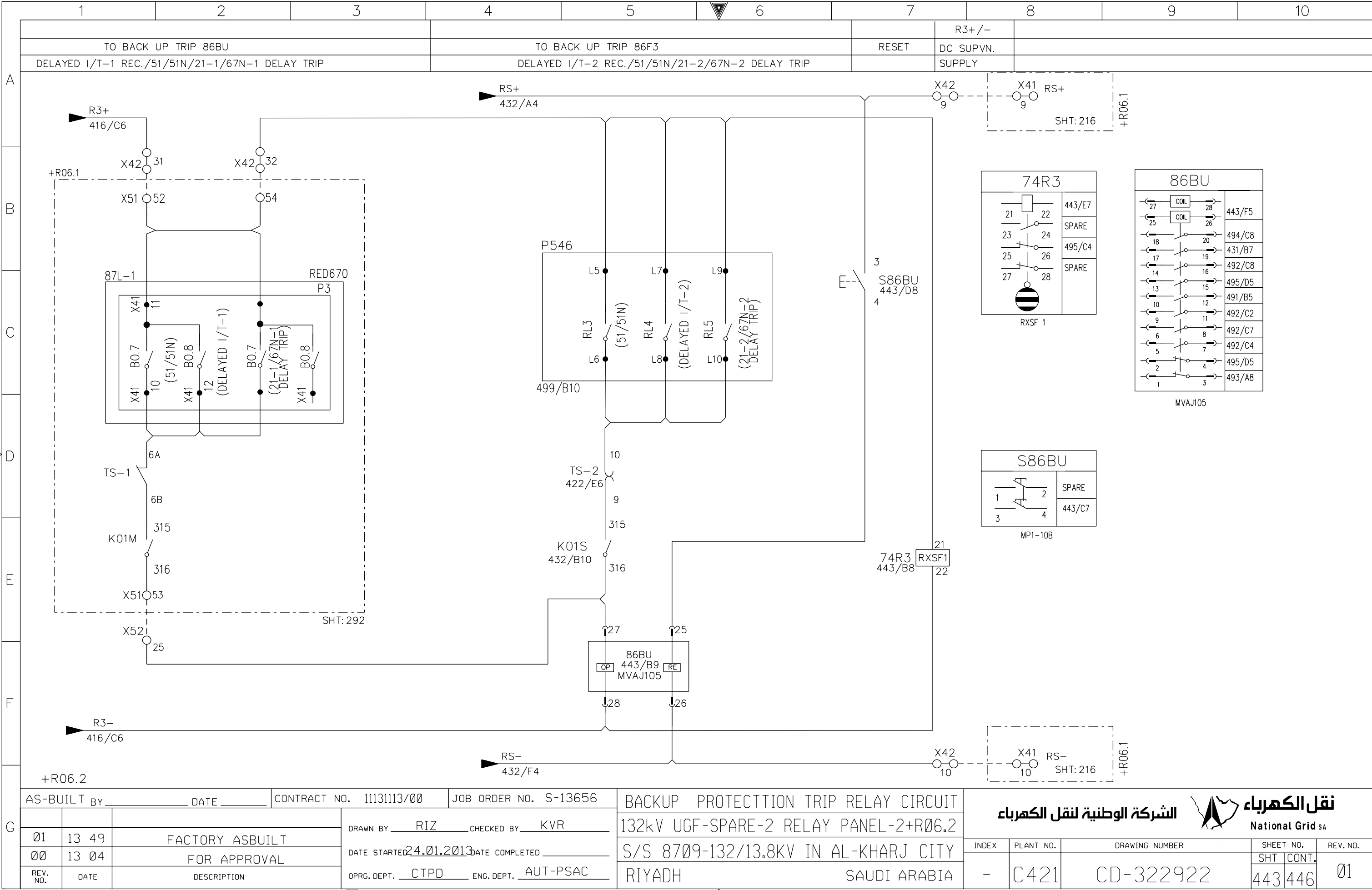
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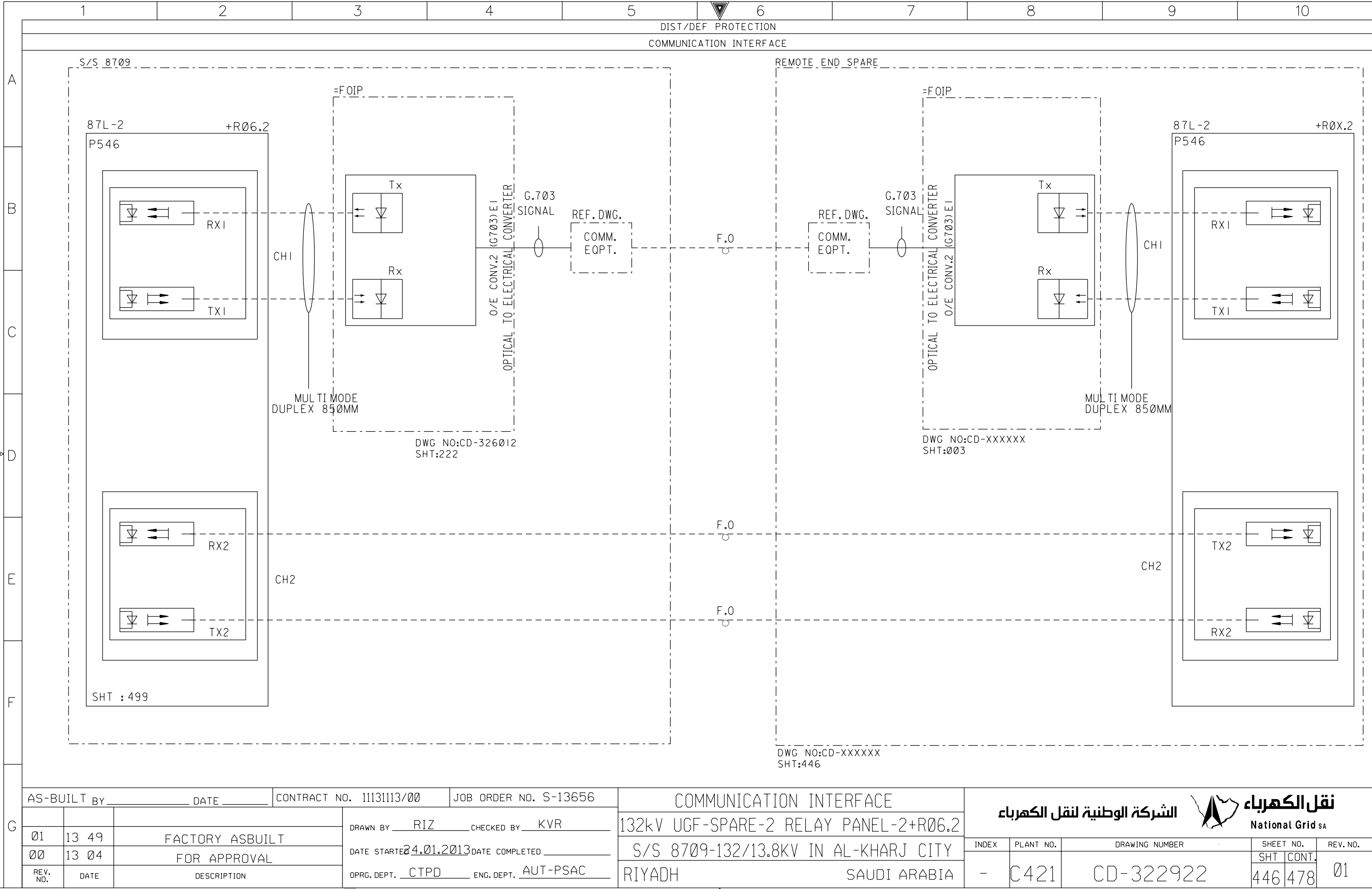
+R06.2				COMMUNICATION CIRCUITS				الشركة الوطنية لنقل الكهرباء National Grid SA			
AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		132kV UGF-SPARE-2 RELAY PANEL-2+R06.2		INDEX		PLANT NO.	
01		13 49		FACTORY ASBUILT		S/S 8709-132/13.8KV IN AL-KHARJ CITY		DRAWING NUMBER		SHEET NO.	
00		13 04		FOR APPROVAL		RIYADH SAUDI ARABIA		CD-322922		SHT CONT.	
REV. NO.		DATE		DESCRIPTION		OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC		- C421		423 431	
										01	

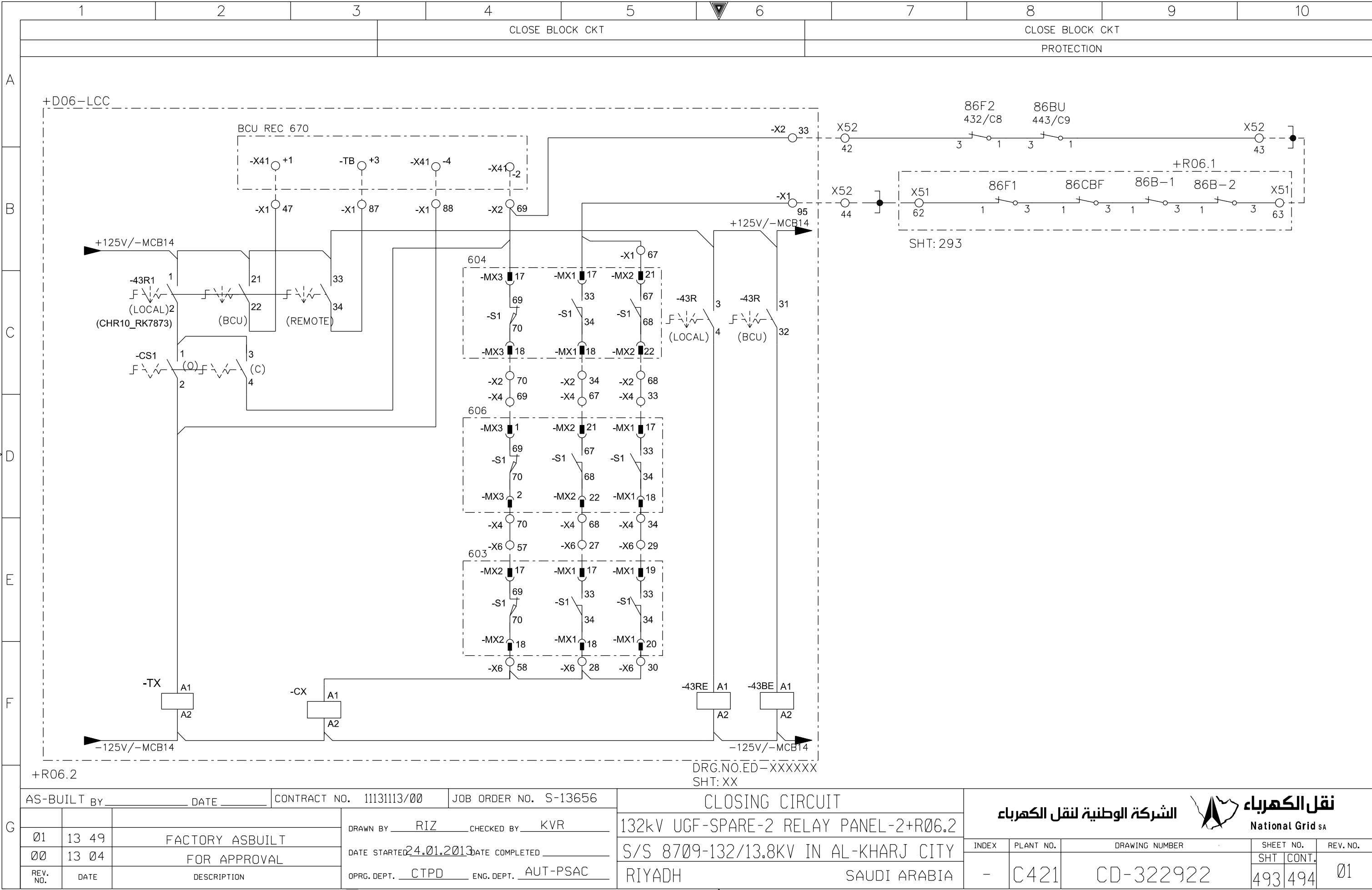


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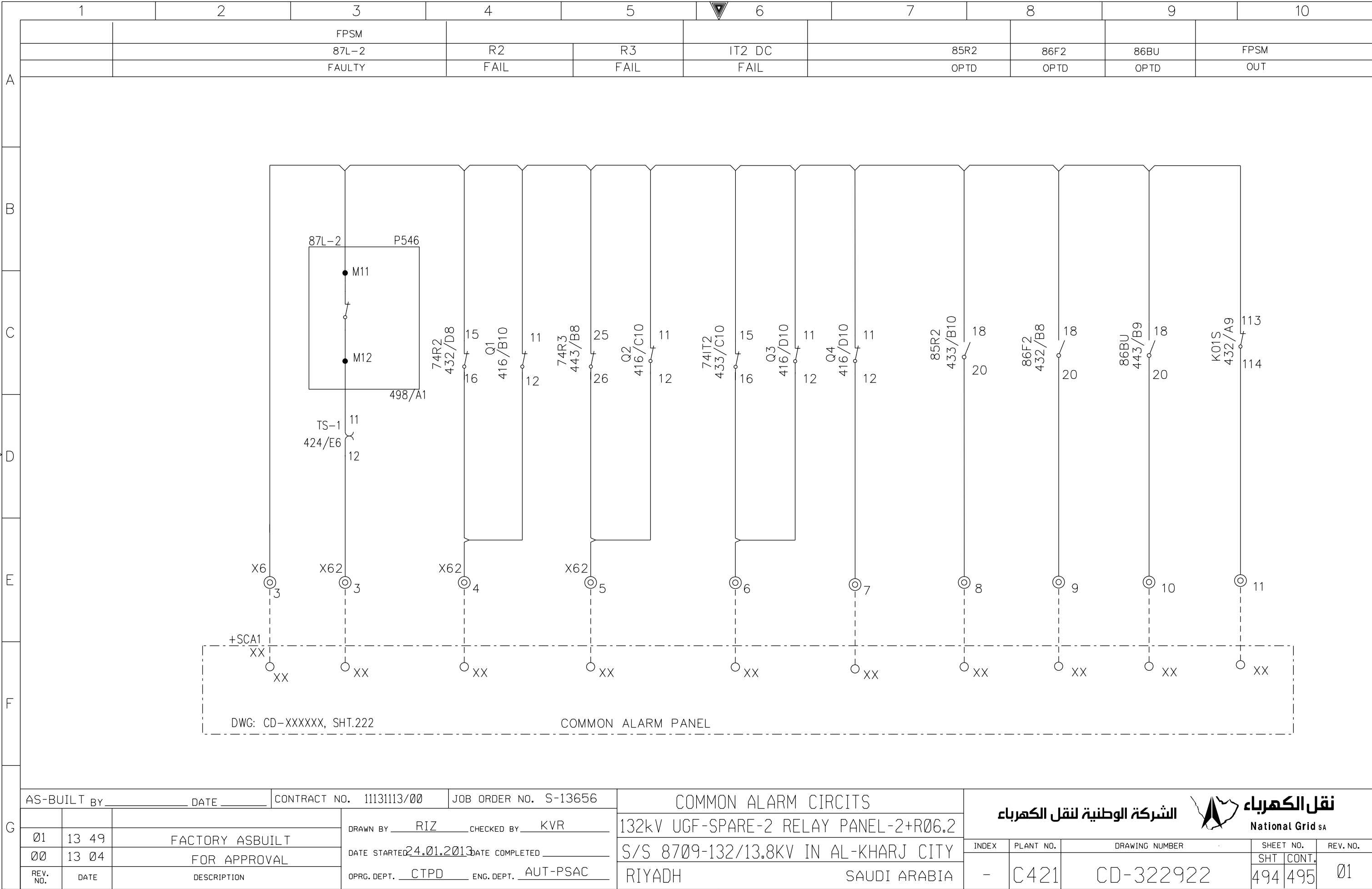


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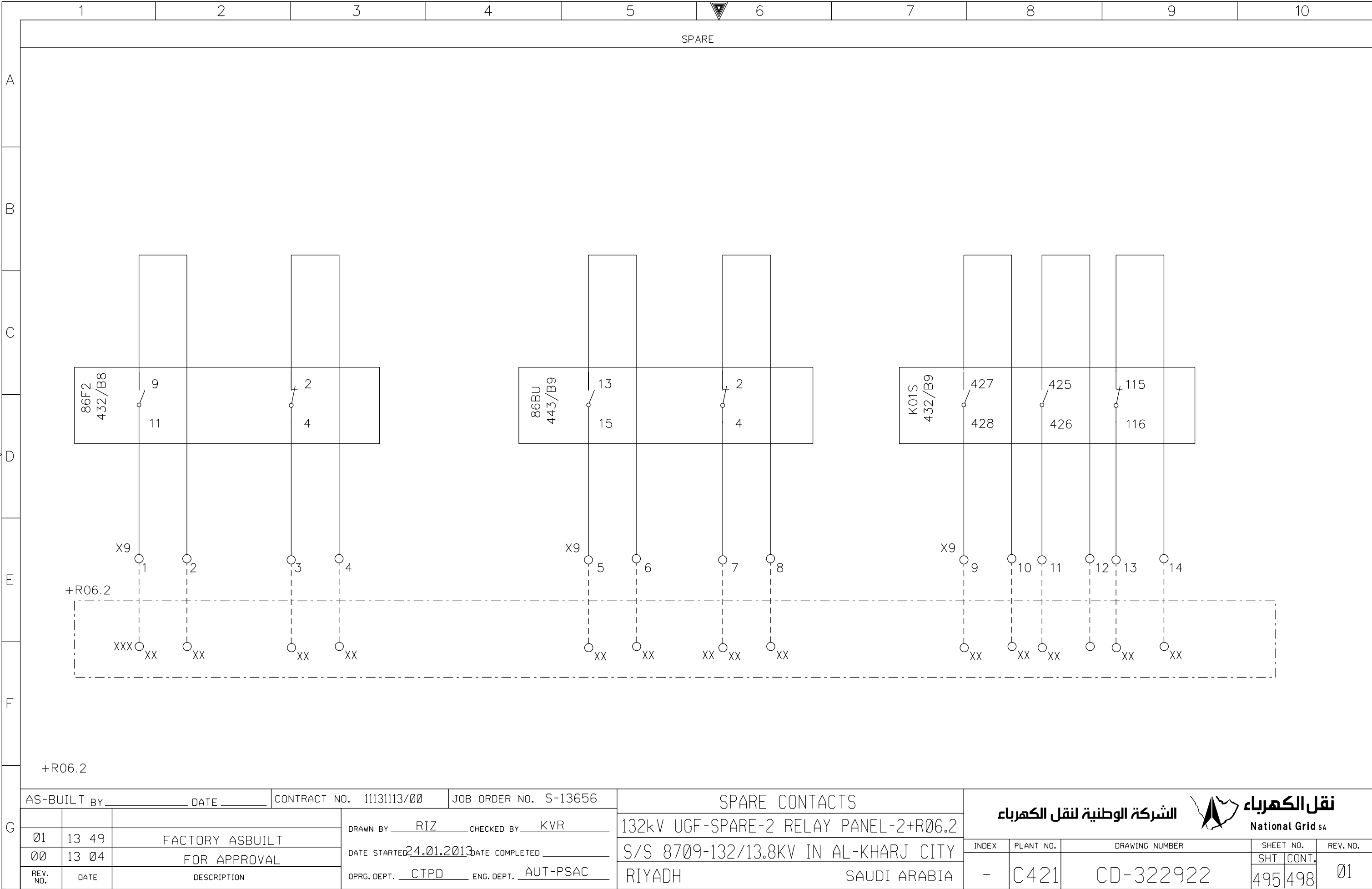




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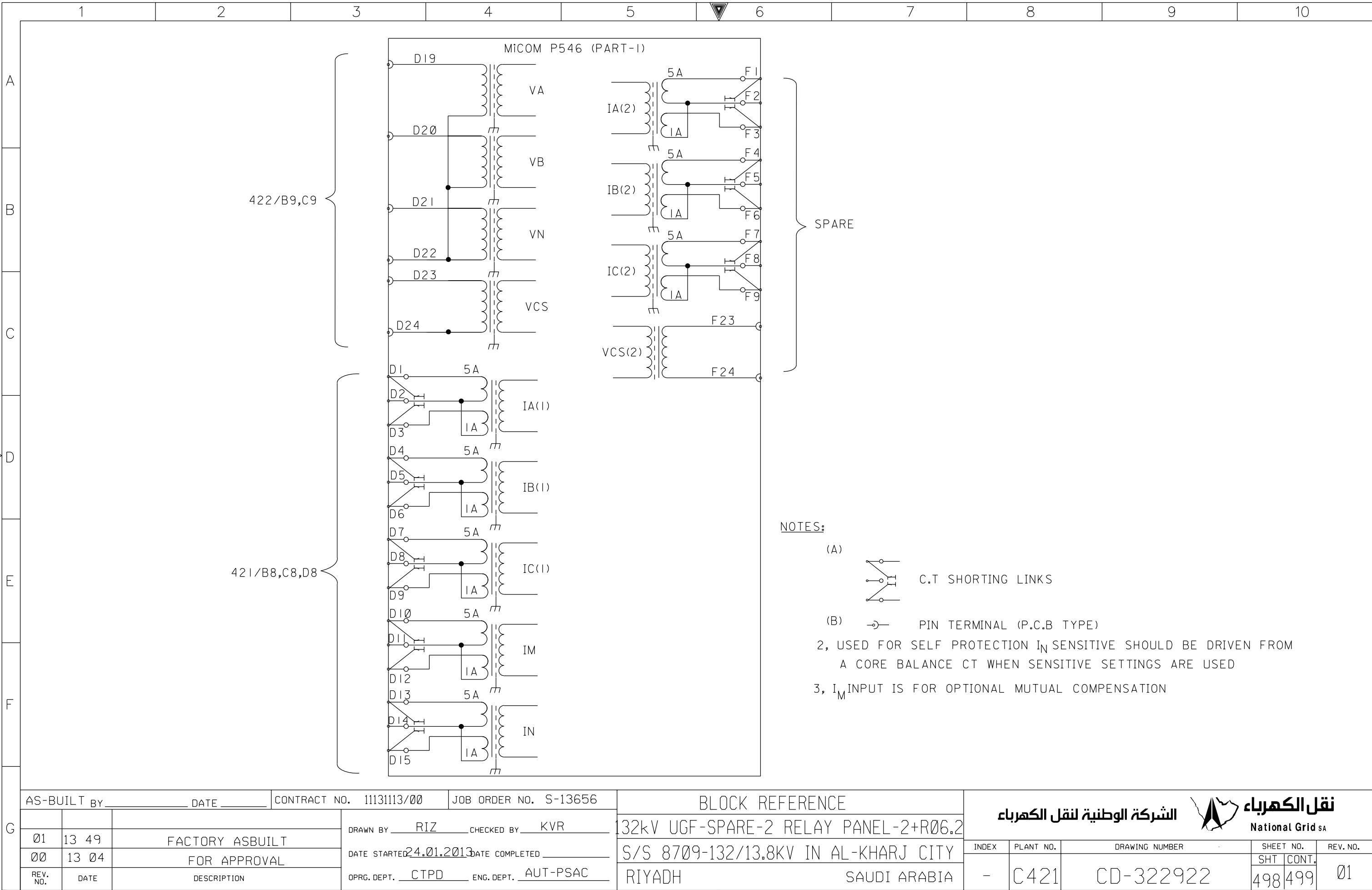


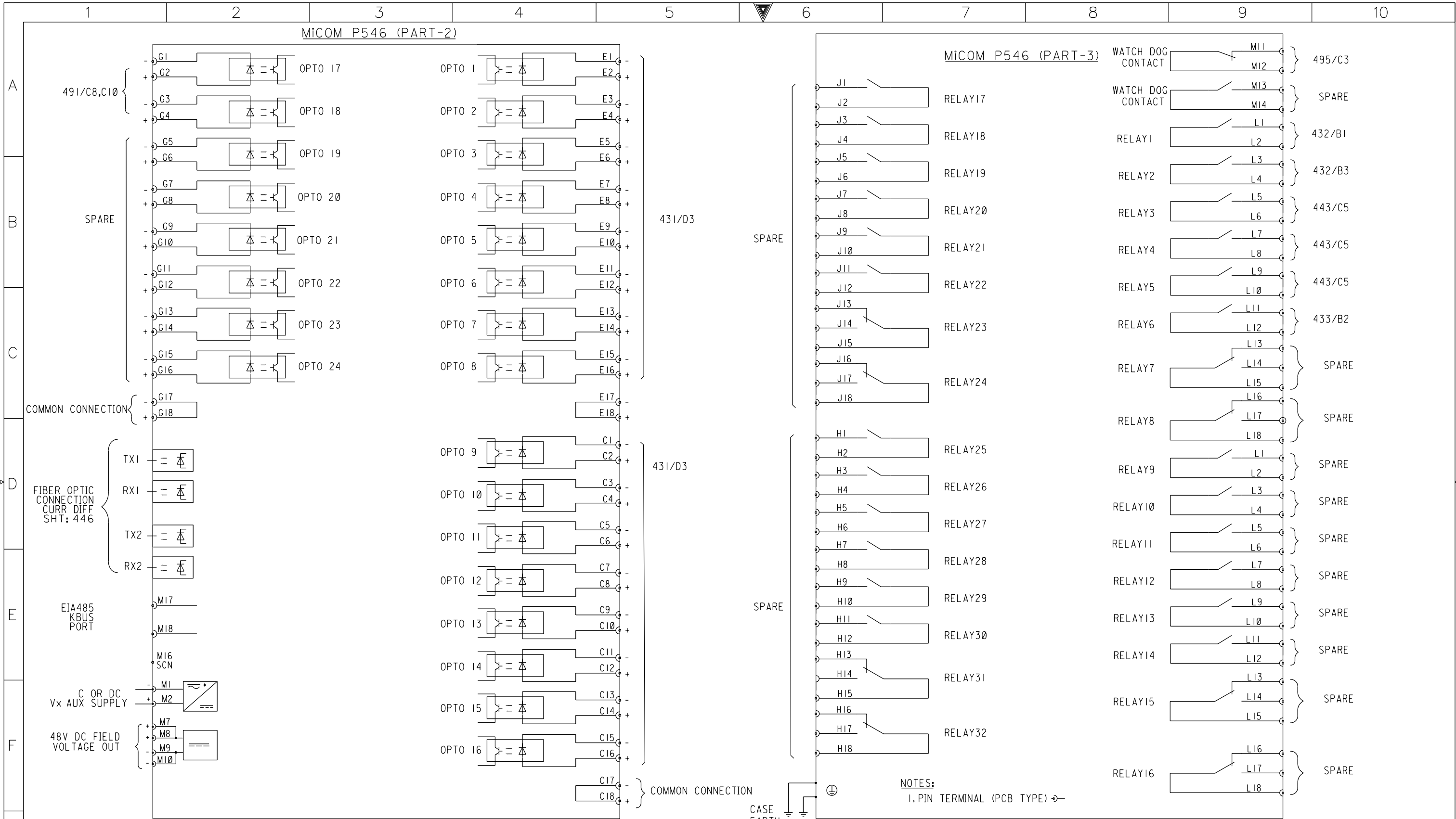
DMS


VECTOR

NGD200

NG/D2-D (2012/01)





G	AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		CLOSING CIRCUIT		<div>الشركة الوطنية لنقل الكهرباء</div> <div> نقل الكهرباء National Grid SA</div>				
				DRAWN BY <u>RIZ</u> CHECKED BY <u>KVR</u>		132kV UGF-SPARE-2 RELAY PANEL-2+R06.2							
	01	13 49	FACTORY ASBUILT	DATE STARTED <u>24.01.2013</u> DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY							
	00	13 04	FOR APPROVAL	OPRG. DEPT. <u>CTPD</u> ENG. DEPT. <u>AUT-PSAC</u>		RIYADH SAUDI ARABIA							
	REV. NO.	DATE	DESCRIPTION					INDEX	PLANT NO.	DRAWING NUMBER		SHEET NO.	
							-	C421	CD-322922		SHT 499	CONT. 501	01

	1	2	3	4	5	6	7	8	9	10
A										
B										
C										
D										
E										
F										
G	AS-BUILT BY _____ DATE _____		CONTRACT NO. 11131113/00		JOB ORDER NO. S-13656		TERMINAL BLOCKS PANEL		الشركة الوطنية لنقل الكهرباء National Grid sa	
	01	13 49	FACTORY ASBUILT		DRAWN BY RIZ CHECKED BY KVR		132kV UGF-SPARE-2 RELAY PANEL-2+R06.2		INDEX PLANT NO. DRAWING NUMBER SHEET NO. REV. NO.	
	00	13 04	FOR APPROVAL		DATE STARTED 24.01.2013 DATE COMPLETED _____		S/S 8709-132/13.8KV IN AL-KHARJ CITY		SHT CONT. 501 NIL 01	
	REV. NO.	DATE	DESCRIPTION		OPRG. DEPT. CTPD ENG. DEPT. AUT-PSAC		RIYADH SAUDI ARABIA		- C421 CD-322922 501 NIL 01	



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VECTOR

NGD200

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